BLM LIBRARY
88025123

Rio Blanco Oil Shale Project

SOCIAL AND ECONOMIC IMPACT STATEMENT TRACT C-a

HD
9582
.04
R56
1976
c.3

Gulf Oil Corporation - Standard Oil Company (Indiana)

March, 1976

88025123

BLM Library
D-553A, Building 50
Denver Federal Center
P. O. Box 25047
Denver, CO 80225-0047

HD
9582
.04
R56
1976
c.3

Rio Blanco Oil Shale Project

SOCIAL AND ECONOMIC IMPACT STATEMENT TRACT C-a

Gulf Oil Corporation - Standard Oil Company (Indiana)

March, 1976

RIO BLANCO OIL SHALE PROJECT

SOCIAL AND ECONOMIC IMPACT STATEMENT FOR TRACT C-a

GULF OIL CORPORATION

STANDARD OIL COMPANY (INDIANA)

March 1976

PREFACE

Gulf Oil Corporation and Standard Oil Company (Indiana) acquired the development rights to Federal oil shale Tract C-a in northwest Colorado in January 1974. The Rio Blanco Oil Shale Project (RBOSP) is a joint venture of Gulf and Standard for the purpose of developing the tract. In March 1976, RBOSP submitted a detailed plan for developing Tract C-a to the Area Oil Shale Supervisor, Geological Survey, U. S. Department of the Interior. RBOSP's ultimate goal is to engage in commercial production of shale oil and associated by-products from Tract C-a at as high a production rate as is technically, environmentally and economically feasible.

RBOSP recognized the potential social and economic impact of oil shale development in a preliminary development plan filed with the Department of the Interior when the Tract C-a lease was acquired. RBOSP pledged at that time to support, to the fullest extent possible, regional planning with the communities affected and with local, county, state and Federal governmental agencies.

At this time, no one can predict with certainty when, if, or to what extent oil shale development will occur. Therefore, all planning by RBOSP has been based on accommodating staged or sporadic development of an oil shale industry and its resulting impacts. The detailed development plan (DDP) submitted to the Area Oil Shale Supervisor (AOSS) indicated the following constraints that must be satisfied before Tract C-a development operations can begin:

- Area Oil Shale Supervisor approval of the detailed development plan
- Bureau of Land Management issuance of right-of-way permits for
  - -pipeline to Rangely
  - -road to Rangely
  - -power transmission line
  - -telephone cable
- BLM approval of use of off-tract land for disposal area
- BLM approval of use of off-tract land for processing facility
- Townsite lands are made available to Rangely by the BLM
- State appropriation for and construction of access roads
- State legislation to enable a town to receive and administer townsite lands
- An acceptable land trade with State Division of Wildlife for surface lands on and around Tract C-a
- State reclassification of air quality designation for area on and around Tract C-a
- Issuance of all required state and Federal permits

In addition to satisfying these constraints, the proposed development described in the DDP must be commercially feasible at the time investments are committed.

The ultimate product of community development planning activities conducted by RBOSP in conjunction with Tract C-a development efforts is a social and economic growth management program. This report describes such a program and is organized in the following manner:

- Chapter 1 describes RBOSP's commitment to social and economic planning and provides a brief history of planning efforts concerning Tract C-a development.

- Chapter 2 presents baseline data concerning Rangely, Meeker, Rio Blanco county and northwest Colorado, including historical and geographic relationships that are important in creating a positive growth policy.

- Chapter 3 deals with the impacts of RBOSP's presence prior to full-scale development of Tract C-a, reviews the status of RBOSP's social and economic program, then concludes with a review of impacts that would occur if Tract C-a is not developed. It is important to note that Chapter 3 considers impacts caused not only by Tract C-a development, but other developments in the area as well.

- Chapter 4 describes specific impacts generated by Tract C-a development and is presented in great detail with mitigation statements being clearly delineated. The primary focus of this chapter is manpower requirements since this will be the most significant development impact requiring mitigation.

- Chapter 5 addresses recommendations for public policy as it relates to energy development in northwest Colorado. Chapter 5 specifically describes a geographic concept of coordination among energy developers and suggests responsibilities of local citizens and government at all levels, as well as energy development companies' responsibility to provide up-to-date information.

This document is not a "business as usual" social and economic impact statement. Rather, it describes where RBOSP has been with respect to social and economic planning for Tract C-a development, and what RBOSP envisions for the future. It describes a social and economic mitigation process that has been going on for the past 18 months; many impacts have already been mitigated by virtue of this process. Thus, this report describes mitigation procedures and timing only for those social and economic impacts that have not yet been addressed or resolved during RBOSP's on-site community development work to date. It is essential to remember that throughout RBOSP's planning activities, the goal has been to build an on-going process to handle impacts. The emphasis is on preventing, rather than countering negative impacts.

RBOSP retained the Foundation for Urban and Neighborhood Development (FUND) to work directly with citizens in potentially impacted communities to help them prepare for energy development. FUND has done pioneering work in analyzing social and economic impacts due to rapid growth resulting from recreation and energy developments. Morrison-Knudsen Company, Inc. (M-K) provided human resource planning consultation in education and training as well as field surveys of housing and population. With this consultant help, RBOSP feels that the potential for negative social and economic impact has been reduced to a minimum. A high degree of involvement by local citizens has been maintained throughout this period. One can best confirm and understand this document by

visiting the communities discussed herein to see what RBOSP has done to help them prepare for energy development impacts through a positive action program. This report is designed so that the average citizen can read and use it to act in his own behalf through the appropriate level of local government concerning impacts created by oil shale development on Tract C-a.

RBOSP retained Gulf Oil Real Estate Development Company to develop a master plan for the town of Rangely, and to supplement the FUND and M-K efforts to deal with social and economic impacts. The master plan supplements the information presented in this social and economic impact report and should be consulted if additional information concerning recommended plans for the growth of Rangely is desired. The Rangely master plan is on file with the town of Rangely, the Rio Blanco Planning Commission, and the Area Oil Shale Supervior's Office.

Readers are invited to comment on this document. If you feel that there are other social or economic impacts that should be addressed, please feel free to write RBOSP at the following address:

Rio Blanco Oil Shale Project
9725 E. Hampden Ave.
Denver, CO 80231

CONTENTS

Preface i

CHAPTER 1 INTRODUCTION

1.1 RBOSP'S COMMITMENT TO SOCIAL AND ECONOMIC PLANNING. 1-1
A. Concept and Approach 1-2
B. RBOSP Growth Management Policies 1-3
1. Participation as a Cooperative Partner. 1-3
2. Openness-Accessibility. 1-3
3. Recognition of the Individuality of the Area. . . . 1-3
4. Making and Announcing Decisions Early 1-3
5. Commitment to Citizen Involvement 1-4
6. Regional Approach 1-4
7. Chronology of RBOSP Activities. 1-4

1.2 TRACT C-a LEASE HISTORY 1-7
A. Prototype Oil Shale Leasing Program. 1-7
B. The Tract C-a Lease. 1-8
C. Preliminary Development Plan 1-8
D. Creation of Rio Blanco Oil Shale Project 1-10
E. Exploratory Plan 1-10
F. Baseline Data Collection 1-11
G. Mining and Processing Studies. 1-11
H. Detailed Development Plan. 1-12

CHAPTER 2 BASELINE DATA

2.1 TARGET AREA 2-1
A. Rio Blanco County. 2-4
B. Rangely. 2-4
C. Meeker 2-4
D. Region 2-5

2.2 DEMOGRAPHIC DESCRIPTION 2-5

2.3 COMMUNITY INFRASTRUCTURE. 2-8
A. Schools. 2-8
B. Housing. 2-9
C. Health Care. 2-9
D. Water. 2-11
E. Sanitary 2-12

2.4 RESOURCE BASE 2-12

2.5 COMMUNITY DESCRIPTIONS. 2-14
A. Rangely. 2-14
B. Meeker 2-16

CHAPTER 3 IMPACTS OF RBOSP'S PRESENCE PRIOR TO FULL TRACT C-a DEVELOPMENT

3.1 CURRENT STATUS 3-1
A. RBOSP Activities. 3-1
B. Consultant Activities 3-2
1. Foundation for Urban and Neighborhood Development (FUND). 3-2
2. Gulf Oil Real Estate Development Company (GOREDCO) 3-6
3. Morrison-Knudsen Company, Inc. (M-K) 3-8
C. Positive Impacts from RBOSP Involvement 3-12
D. Current Community Issues That Need Immediate Attention. 3-17
1. GOREDCO's Rangely Master Plan. 3-17
2. Possible Construction Impact 3-17
3. Information Facilitation for Informed Action 3-17
4. Advice and Assistance to RBOSP Staff 3-18
5. Ordinance Review and Codification. 3-18
6. Home Rule. 3-18
7. Colorado Northwestern Community College. 3-18
8. Western Rio Blanco Metropolitan Park and Recreation District. 3-18
9. Citizen Action 3-19
10. Effective Participation. 3-19

3.2 IMPACTS IF OIL SHALE DEVELOPMENT DOES NOT PROCEED. 3-19
A. Positive Impacts. 3-19
B. Negative Impacts. 3-19

CHAPTER 4 IMPACTS & MITIGATIONS FOR TRACT C-a DEVELOPMENT

4.1 TRACT C-a DEVELOPMENT SCHEDULE 4-1

4.2 IMPACTS AND MITIGATION OF ADVERSE EFFECTS. 4-6
A. Addition of Primary and Secondary Workers 4-7
B. Addition of Temporary Residents 4-12
C. Non-Construction of Rangely Access Road to Tract C-a. . . . 4-14
D. Early Abandonment 4-16
E. Land and Housing Speculation. 4-18
F. Moving Construction Materials 4-20
G. Stresses on Current Health Facilities 4-21
H. Settlement-Assistance Program 4-22

CHAPTER 5 RECOMMENDATIONS FOR PUBLIC POLICY CONCERNING COMMUNITY DEVELOPMENT IN NORTHWEST COLORADO

APPENDICES

A - Detailed Development Plan Abstract

B - Human Resource Inventory of 10 Counties in Northwest Colorado

CHAPTER 1
INTRODUCTION

CHAPTER 1
INTRODUCTION

In 1959, the U.S. Department of the Interior initiated planning for a prototype oil shale leasing program that eventually resulted in Gulf Oil Corporation and Standard Oil Company (Indiana) acquiring an oil shale lease for Tract C-a in the Piceance Creek basin of northwest Colorado. Gulf and Standard submitted the high bonus bid for Tract C-a ($210,305,600) at a lease sale in Denver on January 8, 1974. Rio Blanco Oil Shale Project (RBOSP), an organization directed and staffed by representatives of Gulf and Standard, was formed later that year for the purpose of developing Tract C-a. In the past two years, RBOSP has conducted extensive geotechnical and environmental data collection programs designed to establish baseline conditions on and around Tract C-a and to provide input to engineering studies leading to the selection of mining and processing plans for Tract C-a development. The ultimate goal with respect to Tract C-a development is to engage in commercial production of shale oil and associated by-products at as high a production rate as is feasible, consistent with environmental, technical and economic constraints that now prevail or may exist in the future.

RBOSP's plans for developing Tract C-a are described in a detailed development plan (DDP) submitted to the Area Oil Shale Supervisor, U.S. Geological Survey, in March 1976. An abstract of the DDP is included in this report as Appendix A.

1.1 RBOSP's COMMITMENT TO SOCIAL AND ECONOMIC PLANNING

Gulf and Standard recognized the potential social and economic impacts of developing Tract C-a in the preliminary development plan filed with the Bureau of Land Management in January 1974. Gulf and Standard pledged at that time to support regional planning with the communities affected and with local, county, state, and Federal governmental agencies.

A social and economic impact statement is not legally required by the Tract C-a lease, but shortly after award of the lease, Gulf and Standard officials and the Area Oil Shale Supervisor agreed on the desirability of such a report. It was later agreed that such a report should logically be filed at the same time as, but separately from, the detailed development plan. In addition, the Oil Shale Environmental Advisory Panel established a committee to develop guidelines and review procedures for social and economic matters.

Obviously, it is important to RBOSP that development of Tract C-a not be delayed or prevented because of a lack of proper planning for local community development problems. Thus, the overall objectve of RBOSP's planning activities is to ameliorate social and economic impacts and to avoid the mistakes and resulting problems encountered in other areas experiencing significant population increases caused by new industry. The planning will have been successful if a high enough quality of life is maintained to ensure excellent community stability, and thus achieve RBOSP's goal of a stable and productive labor force.

The ultimate product of community development planning activities conducted in conjunction with Tract C-a developmental efforts is a social and economic growth management program. This report describes such a program.

A. Concept and Approach - The overall goal of RBOSP's management has been to develop a process that will minimize harmful effects on the communities caused by the presence of an oil shale industry and at the same time maximize the benefits and opportunities that will be available to the communities because of the industry. In order to achieve this goal, it is necessary to identify present characteristics and management processes of the existing communities, so that positive aspects can be built upon and negative impacts can be avoided.

A unique feature of this document is that it considers qualitative as well as quantitative data. RBOSP also realized that from the moment the lease was signed, the company's physical presence would create an impact that must be understood and addressed. Internally, RBOSP committed its entire management team to participation in this effort to optimize its social and economic effects.

B. RBOSP Growth Management Policies - The adoption of several policies since acquiring the Tract C-a lease has guided RBOSP's commitment to developing a growth management program.

1. Participation as Cooperative Partner - Rio Blanco believes that it is important to be a cooperative partner with the local area rather than an isolated and external force. If growth and development are to take place for the benefit of both private and public groups it is necessary for these groups to identify, then work together toward the achievement of common goals. It is also necessary to maintain a cooperative atmosphere for the efficient resolution or mitigation of conflicts.

2. Openness - Accessibility - RBOSP believes a policy of open communication is necessary to ensure that the communities and state, local and Federal governments will have as much knowledge as possible on RBOSP activities on which to base planning. Accurate information is a crucial factor in knowledgeable decision making. Accessibility is a safeguard against the spread of misinformation and establishes a basis of trust.

3. Recognition of the Individuality of the Area - RBOSP feels that one of its responsibilities is to recognize the uniqueness of the communities with which it is working. Informing the communities and citizens about project plans is only one part of the process of establishing good two-way communication and involvement. It is also necessary to learn as much as possible, both qualitatively and quantitatively, about the area being affected by the presence of the project.

4. Making and Announcing Decisions Early - Rio Blanco has committed itself to making and announcing decisions as early as possible. This not only permits the local area to know RBOSP's plans, but also allows the county, state, and Federal governments to review and reevaluate the policies necessary to implement and accommodate such decisions. Early decisions and announcements also allow other energy and development interests to incorporate RBOSP's impacts into their planning.

5. Commitment to Citizen Involvement - RBOSP desires to incorporate a broad base of citizens into the planning efforts. This will broaden the partner-cooperation aspect of the program as well as foster the development of the local community in problem-solving situations. It is recognized that having an active and involved community base is a community strength in the face of impact and will enhance its ability to mitigate impacts as they arise.

6. Regional Approach - Without attempting or desiring to be responsible for the welfare of the entire region, RBOSP will make regionally responsible decisions.

7. Chronology of RBOSP Activities - The following is a chronology of community development efforts associated with RBOSP's social and economic impact mitigation program.

1974

January 8	Successful bid for lease on Tract C-a.
January 19	F. Cushing Smith (Vice President of Corporate Planning and Development, Standard), Robert Baldwin (President of Gulf Energy & Minerals), Leonard Lombardi (Vice President of Gulf Energy & Minerals) and Kay L. Berry (Vice President of Processing for RBOSP) appeared before a hearing in Grand Junction of the Subcommittee on Public Lands of the Senate Committee on Interior & Insular Affairs. They reviewed Gulf and Standard's current plans for development of the tract and estimates on initial work force figures.
Feb. 11-13	Ted Neptune (RBOSP) and Kirk Vogeley (Gulf) made get-acquainted trip to Grand Junction, Rifle, Meeker and Rangely; met with mayors, county commissioners, city managers and press.
February 25	Edward Walker (Executive Vice President of Gulf) and F. Cushing Smith appeared before the House of Representatives Oil Shale Informational Hearings. In these hearings, Mr. Walker stated, "In addition to the material aspects of this project, a very important part of our efforts in the next few years will be keeping local planning groups current on our activities and projections to provide for orderly handling of the increase of population that will result from this development, while maintaining the western slops of Colorado as a very desirable place to live. We will, of course, work with these groups to the extent they desire."

April 4	Ted Neptune on panel for Rangely Chamber of Commerce meeting.
April 8-11	Ford Blunck (Manager of Energy Resource Planning, Standard), Len Lombardi, Ted Neptune and Kirk Vogeley made another get-acquainted trip to Grand Junction, Rifle, Meeker and Rangely for meetings with officials.
June 24	Ted Neptune and Dick McElroy (RBOSP) attended county commissioner's meeting in Meeker, and presented $40,000 to Rio Blanco County from Gulf and Standard for the purpose of helping the county with its planning.
June 28	Ted Neptune attended a joint meeting in Grand Junction with Mesa College, Colorado Northwestern Community College and Colorado Mountain College officials, for the purpose of studying training and educational needs in connection with oil shale development.
Summer 1974	RBOSP representatives attended hearings in Western Colorado held by the Colorado legislature's Interim Committee on Oil Shale, Coal and Related Minerals.
August 13	Dick McElroy moved to Grand Junction to represent RBOSP as Manager of Community Affairs, a liaison position with Western Slope communities.
November 6	Government Administrators' meeting, first of a series of meetings to brief Federal, state and local officials.
November 13	RBOSP representatives went to Rock Springs, Wyoming, and met with industry leaders involved in activities causing social and economic impact in Rock Springs/Green River/Gillette area, to learn from their experiences.
1975	
January 20	First meeting of Community Development Study Team (CDST), attended by representatives of RBOSP, Gulf, Morrison-Knudsen and Cameron Engineers, Inc.
January 27	Above group met with the Foundation for Urban and Neighborhood Development (FUND) for presentation on FUND's services and their possible tie-in with RBOSP activities.
February 7	FUND hired to make study of Western Slope communities.
March 19	Government Administrators' meeting.
March 25	CDST meeting which included Gulf Real Estate Development Co. (GOREDCO) and Standard Oil Real Estate Department representatives.

April 22	Bill Moffett, (Exec. Vice President, RBOSP) spoke to Rangely Chamber of Commerce.
May 8	FUND presented results of two-month study on Western Slope communities which would be impacted by oil shale development. Rangely was identified as community best equipped and most willing to accept growth.
July 16	Government Administrators' meeting.
August 6	Meeting in Denver with representatives of Federal and state educational, vocational and manpower organizations, HUD and HEW.
August 21	GOREDCO presentation to Planning Commission in Rangely.
August 27	GOREDCO presentation to the Oil Shale Environmental Advisory Panel meeting in Rangely.
October 29	GOREDCO meeting at Colorado Northwestern Community College in Rangely, attended by Dan Coleman (Coleman & Associates), Don Cummings (GOREDCO), Blaine Miller, (Exec. Vice President, RBOSP) and Tom Ten Eyck, (Cameron). Also met with Chamber of Commerce.
October 30	Government Administrators' meeting.
November 13	Dick Bonar (GOREDCO) made presentation to City Council in Rangely.
November 24	GOREDCO presentation and discussion with Rangely High School students.
November 24 & 25	GOREDCO workshops in Rangely, with discussions on priorities and development strategies.
1976	
January 6 & 8	GOREDCO workshops in Rangely, with further discussions on priorities and development strategies.
January 27	First meeting of Rangely Advisory Group, consisting of representatives from education, community and other groups in Rangely.
	Walter Herget (President, RBOSP) and Tom Ten Eyck (RBOSP) met with Rangely Advisory Group, Chamber of Commerce and Rangely City Council.
January	Dick McElroy appointed to Petroleum Technology Advisory Committee for Colorado Northwestern Community College.

February 11 Government Administrators' meeting.

Frequent attendance by Dick McElroy at County Commissioners' meetings, County Planning Commission meetings, Rangely City Council meetings, and Council of Governments (COG) meetings.

1.2 TRACT C-a LEASE HISTORY

A. Prototype Oil Shale Leasing Program - The Prototype Program dates back to planning activities initiated in October 1969 following an unsuccessful leasing attempt a year earlier. An interagency oil shale task force was formally established in December 1969 and their work was seemingly finished in May 1970 upon submission of a proposed program to then Interior Secretary Walter J. Hickel. But Secretary Hickel rejected the proposal and directed the task force to further evaluate the environmental effects of the program before implementation.

This led to the creation of joint state-Federal-industry committees (appointed by the Governors of Colorado, Utah and Wyoming) to study the environmental aspects of oil shale development in each of the three states. Their studies were completed and reports submitted to the Interior Secretary in February 1971. The information in these reports was used to prepare a draft environmental impact statement and it, together with a program statement on the proposed prototype program, was released to the public on June 29, 1971. Release of these documents set in motion the events that led to the 1974 lease sales.

The first step in the leasing program announced in June 1971 was provision for informational core hole drilling by firms interested in acquiring an oil shale lease. Industry responded by drilling 16 holes during the fall and winter of 1971-1972. At Interior's invitation, industry then nominated 20 tracts in Colorado, Utah and Wyoming during January 1972 as potential lease areas. Interior selected six of these tracts, two in each state, as having the best potential for satisfying the goals and objectives of the prototype program. One objective was to test various mining methods. Tract C-a was the only lease tract considered amenable to open pit mining.

A revised and greatly expanded draft EIS on the program was released in September 1972. Interior conducted a series of public hearings a month later in the states in which the selected lease tracts were located. There followed another 11 months of work by Interior's oil shale task force before the final environmental impact statement was released on August 30, 1973. Interior Secretary Rogers Morton subsequently announced his decision on November 28, 1973 to proceed with the program and scheduled the first lease sale (Tract C-a) for January 1974.

Gulf and Standard's high bid at the January 8th sale was $210,305,600 for the approximately 5,100 acre Tract C-a. It is the highest per-acre bonus ever paid for a Federal mineral lease.

B. The Tract C-a Lease - The Tract C-a lease was formally signed by the Colorado State Director of the Bureau of Land Management on February 5 and became effective on March 1, 1974. Tract C-a comprises about 5,100 acres in Rio Blanco County, Colorado, some 20 miles southeast of Rangely as shown in Figure 1-1.

The lease is for a period of 20 years from the effective date (March 1, 1974) and so long thereafter as there is production from the leased deposits in commercial quantities, subject to readjustment of terms and conditions at 20-year intervals following the effective date.

C. Preliminary Development Plan - In accordance with rules established by the Department of the Interior, a preliminary plan for development of Tract C-a was submitted by Gulf and Standard in early February 1974, after being notified that they had been awarded the lease for Tract C-a. The preliminary development plan expressed the companies' planning objectives with respect to Tract C-a development:

- to comply with lease terms requiring submittal of data for review by appropriate government agencies and also to keep the public informed of plans and progress through a series of regular progress reports;
- to conceive, coordinate and execute engineering studies of mining

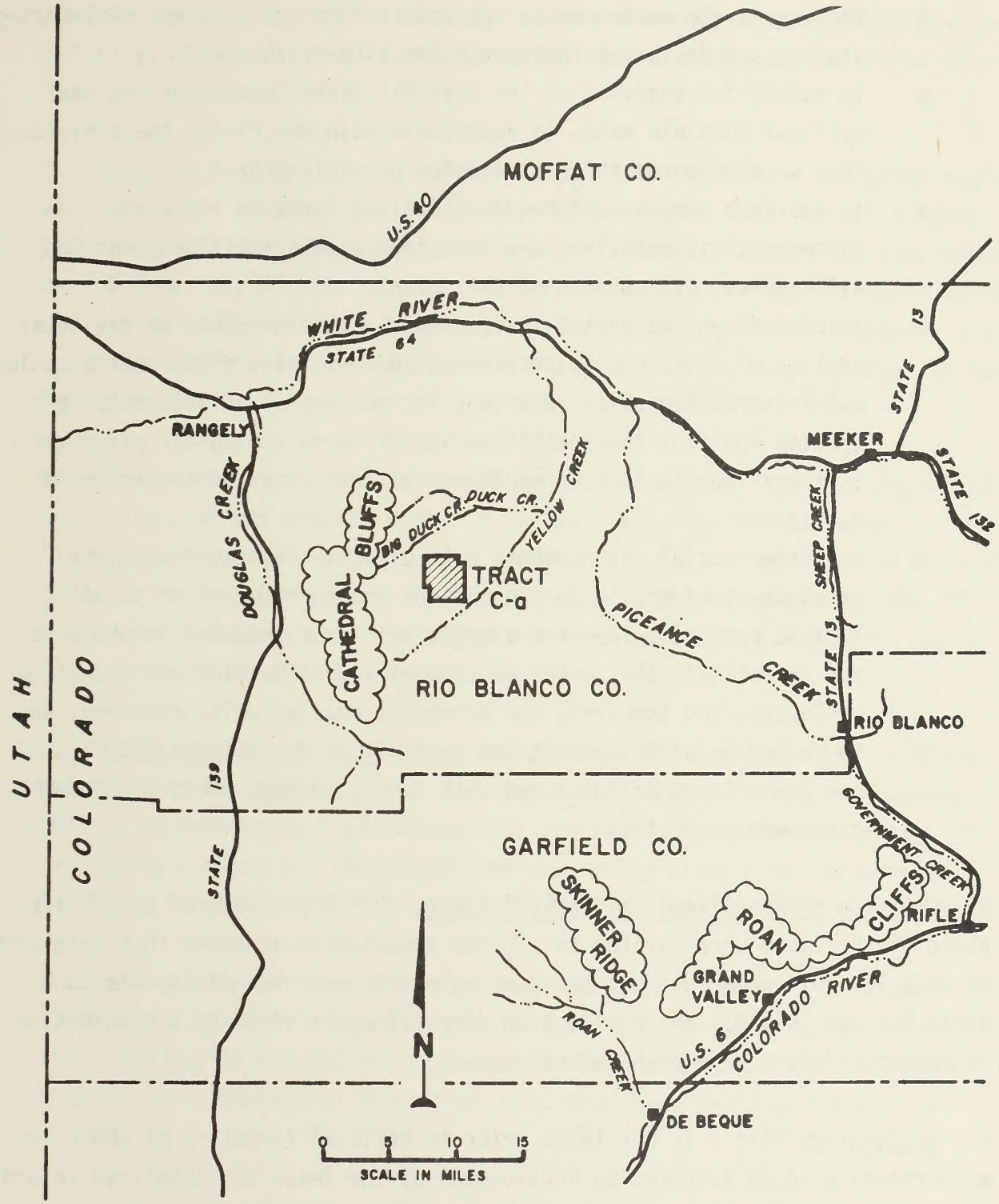


Figure 1-1
LOCATION OF TRACT C-a

and processing methods and equipment in a manner designed to enhance project economics and achieve the earliest feasible start-up date;

- to incorporate environmental considerations into project engineering studies and decisions throughout the life of the project;
- to submit for approval of the Area Oil Shale Supervisor, at the earliest possible date, an acceptable plan describing the exploratory work proposed to be undertaken on the tract;
- to see that the general requirements set forth in the lease's environmental stipulations are transformed into specific plans that will address all aspects of the lease;
- to conduct an integrated environmental baseline study of the total ecology of Tract C-a to provide an understanding of the basic ecological interrelationships important for successful environmental protection and to allow identification of those ecological parameters that are important to be monitored as indicators of environmental quality;
- to gather social and economic data directly related to project development as an aid to projections and assessments of probable impacts resulting from a prototype oil shale industry in the area and to estimate the number of temporary construction and operating employees, and temporary and permanent housing units required; and
- to cooperate with, support and participate in regional planning by the communities affected and with local, county, state and Federal government agencies.

D. Creation of Rio Blanco Oil Shale Project - The first several months after award of the lease were devoted to various organizational tasks that culminated on July 10, 1974 when Gulf and Standard announced creation of Rio Blanco Oil Shale Project (RBOSP), an organization directed and staffed by a combination of representatives from each parent company.

E. Exploratory Plan - In May 1974, prior to official formation of RBOSP, an exploratory plan as required by Section 10d of the lease was submitted to and approved by the Area Oil Shale Supervisor of the U. S. Geological Survey. The document detailed plans by Gulf and Standard for obtaining environmental base-

line data, establishing monitoring programs and acquiring resource data needed for studies leading to the selection of the mining, processing, and environmental protection systems and procedures, that are the subject of the detailed development plan.

F. Baseline Data Collection - Geotechnical data gathering, including geologic and hydrologic resource evaluation through core hole drilling and logging, began in July 1974. Thirteen core holes were drilled during the four-month period from July 3 to October 27, 1974. Collection of baseline environmental data began in October 1974 but some of the programs were not initiated until several months later; one full year of data collection was completed in early February 1976.

Baseline geotechnical and environmental data have been regularly described in quarterly progress reports prepared by Rio Blanco Oil Shale Project. The first such report was submitted to the Area Oil Shale Supervisor in October 1974; it covered the period from lease issuance through September 30, 1974. Subsequent quarterly progress reports were submitted to the AOSS in March, July and November 1975 and March 1976.

G. Mining and Processing Studies - Rio Blanco Oil Shale Project retained Morrison-Knudsen Company, Inc. and Foster Wheeler Energy Corp. in December 1974 to perform conceptual engineering studies to encompass all phases of developing a major oil shale mine and processing plant plus the necessary ancillary facilities for production of shale oil in commercial quantities.

The primary objectives of the engineering studies, completed in January 1976, were (1) to provide information for inclusion in the detailed development plan; and (2) to examine the technical and economic viability of the Tract C-a project. M-K subdivided their task into four major working areas:

- Mining
- Crushing and materials handling
- Support facilities
- Environmental control plans

Foster Wheeler studied the processing (retorting and upgrading) facilities.

H. Detailed Development Plan - The requirement for filing a detailed development plan (DDP) with the Area Oil Shale Supervisor (AOSS) on or before the third anniversary date of the lease may be found in Section 10 of the oil shale lease. The DDP, filed with the AOSS in March 1976, includes the following:

- A schedule of the planning, exploratory, development, production, processing and reclamation operations and all other activities to be conducted under the lease; and
- A detailed description pursuant to 30 CFR Part 231 and 43 CFR Part 23 of the procedures to be followed to assure that the DDP and all operations thereunder will meet and conform to the environmental criteria and controls incorporated in the lease.

The basic purpose of the DDP is to describe program planning activities being conducted and to disseminate information concerning the manner in which Gulf and Standard intend to develop Tract C-a and surrounding areas. The purpose of the environmental information presented in the DDP is to establish baseline conditions, provide an estimate of the expected environmental effects of operations under the lease, and describe the planning and mitigative measures developed to permit compliance with requirements to avoid, or where avoidance is impracticable, to minimize such environmental effects. A monitoring program is included to verify compliance with all lease environmental stipulations and applicable Federal, state and local environmental regulations and standards.

The DDP is available for review by all interested Federal, state, county and local government agencies and the general public. As required by the lease, public hearings will be conducted on the environmental aspects of the DDP.

Development operations on Tract C-a cannot begin until the AOSS approves the DDP.

CHAPTER 2
BASELINE DATA

CHAPTER 2
BASELINE DATA

2.1 TARGET AREA

Tract C-a is located in the western third of Rio Blanco County, Colorado, about midway and slightly south of a line between Denver and Salt Lake City. It is about 20 miles southeast of Rangely, 35 miles southwest of Meeker and some 55 miles due north of Grand Junction (see Figure 2-1).

The populations of the existing surrounding communities and their distances from Tract C-a by existing roads are as follow:

Community	Miles	1970 Population
Meeker	51	1,597
Rifle	58	2,149
Rangely	68	1,591
Glenwood Springs	89	4,106

The "Rapp Report"* dismissed Rangely as a community that would serve Tract C-a development because of its greater distance from the tract than either Meeker or Rifle. RBOSP studies, on the other hand, indicate that a new road from Tract C-a to Rangely is justified, not only because highway distance will be reduced, but also because Rangely is the one community best equipped to handle Tract C-a employees. The "Rapp Report" predicted that traffic from Tract C-a would be widely dispersed and that planning would be difficult to accomplish because of the uncertainty of where RBOSP employees would elect to live.

Adding to planning difficulties is the possibility that the Rangely-Tract C-a road might be built after Tract C-a development is underway. This could

*Impact : An Assessment of the Impact of Oil Shale Development--Colorado Planning and Management Region," prepared by the Colorado Office of Oil Shale Planning and Coordination, Donald A. Rapp, Director, December 1974.

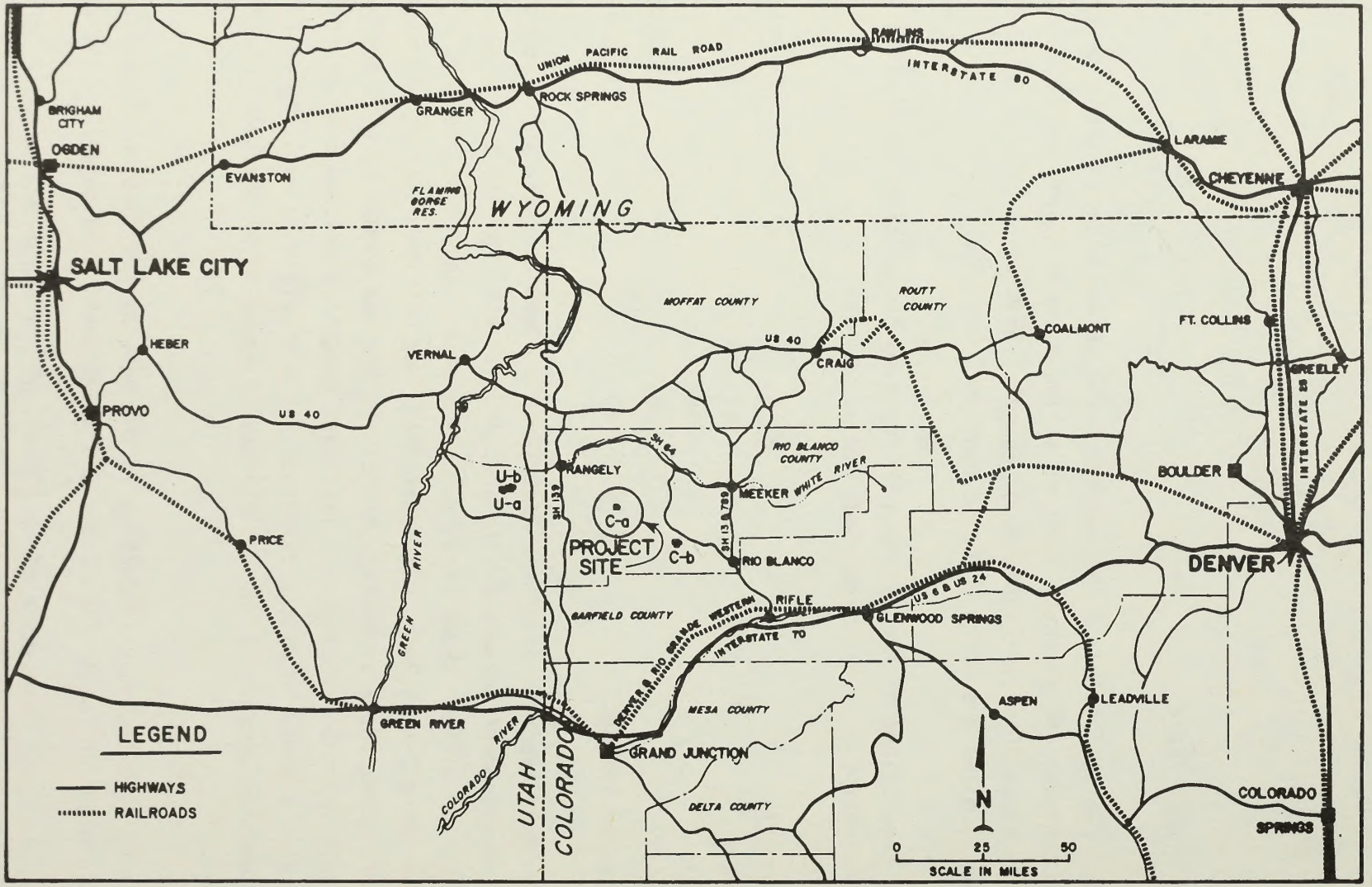


Figure 2-1

REGIONAL MAP SHOWING LOCATION OF TRACT C-a

result in drawing RBOSP employees already living in Meeker and Rifle away from those cities to Rangely. Such relocation would likely disrupt planning efforts by both Meeker and Rifle. RBOSP has thus supported and encouraged the construction of a road from the interior of the Piceance Creek basin through the Gillam Draw area to Rangely. This would reduce commuting distance from Tract C-a to Rangely to about 25 miles as compared with over 50 miles to either Meeker or Rifle.

The Morrison-Knudsen report, "Access Road C-a to Rangely," of November 14, 1975, estimates 670 daily round trips from Rangely and 130 from Meeker, when the plant is at a 55,800 barrel per day production level.

Comparing costs with the baseline being all traffic going to Meeker (no C-a to Rangely road), a benefit/cost ratio was calculated. Assuming vehicle operating cost at 9 cents per mile and time at 5 cents per minute, the trip cost was $3.73 for the new road against $8.14 to Meeker; the annual road user savings is $1,078,575. After deducting additional maintenance costs, the annual road user benefit is $1,049,280. Capitalized to a present worth, with a 30-year life and interest at 10%, the road user benefits are $9,891,563. Dividing this by the estimated cost of the road ($11,222,000), the benefit/cost ratio is 0.88, based on quite conservative assumptions.

The fuel savings (energy conservation) per vehicle, assuming 15 miles per gallon, is 2,092 gallons per year. For all traffic, this is 427,600 gal/yr. The monetary benefit of this fuel economy is included in the benefit/cost calculation, but the energy conservation is also significant.

Further, the reduction in vehicle miles traveled would statistically reduce fatalities by one death approximately every three years, and non-fatal injuries due to accidents by more than five per year. The time saving, evaluated in the benefit/cost calculation, should also be noted--more than an hour of time saved, with the C-a to Rangely road, giving workers more time to devote to activities with their families and communities. This is a considerable factor when trying to establish and maintain stable, productive community environments.

These cost considerations, coupled with other social and economic evaluations which will be further outlined in this document, have led the Rio Blanco Oil Shale Project to choose Rangely as its population town-site. Therefore, the main thrust of RBOSP's community development efforts and impact mitigation strategies have been directed toward Rangely. This document reflects that focus.

A. Rio Blanco County - Rio Blanco County in northwestern Colorado stretches from the headwaters of the White River on the east to the Colorado-Utah border on the west, a distance of more than 100 miles. Except for a small panhandle extending east of Trappers Lake in the White River National forest, the county is almost rectangular in shape with the largest north-south distance being about 45 miles. The county's total area is roughly 3,700 square miles with a population of about 5,000, more than half of which resides in Meeker and Rangely, the county's only incorporated towns.

B. Rangely - Rangely is located on the White River about 13 miles east of the Utah-Colorado border. It is a relatively young community, having grown and declined through an oil boom period starting in 1943 to its present size of about 1,800. The town itself occupies space at the edge of a broad barren basin underlain by the Rangely oil field, the economic lifeblood of the community.

Rangely's proximity to Utah and economic association with oil field services in the Vernal area reinforce a strong identification with eastern Utah. Vernal, Utah is about 45 miles northwest of Rangely and draws more Rangely residents for shopping and cultural events than does Grand Junction some 70 miles south. Distance is one factor limiting travel to Grand Junction; another is a 15-mile stretch of mountainous terrain (Douglas Pass) that, during winter, often presents treacherous and sometimes impassable road conditions.

C. Meeker - Meeker is also located on the White River 57 miles east of Rangely. Meeker is a much older community dating back to the 1880's. Meeker's economy is also based on its natural resources--in this case its surrounding rich

agricultural land which supports cattle and sheep ranching, hay production and dry land wheat farming. It is situated on the edge of the White River National Forest. The entire White River Valley from Meeker east and south to the Flat Tops Wilderness area is one of the most attractive and popular areas in Colorado for outdoor recreation. Enthusiasts come through Meeker to this area to enjoy hiking, fishing, snowmobiling and hunting. The Piceance Creek basin supports Colorado's largest migratory deer herd and draws thousands of hunters each fall. Elk hunting is almost solely restricted to the eastern third of the county in the White River National Forest.

D. The Region - Oil shale development at Tract C-a and other sites, together with coal and other energy-related development would affect a five-county area (Moffat, Rio Blanco, Garfield and Mesa counties, Colorado and Uintah County, Utah) in northwestern Colorado and eastern Utah. Principal cities in this roughly 18,000-square mile area in addition to Vernal, Rangely, Meeker and Grand Junction, are Craig, Glenwood Springs, Rifle, and Fruita.

The region is principally rural in character, but rapidly growing cities like Vernal, Grand Junction and Craig have economies based more and more on industrial development. Grand Junction is the largest city in the region with a population exceeding 25,000. It is the Mesa County seat and the transportation hub of the region with excellent rail and highway systems and an airport with frequent commercial jet service to Denver and Salt Lake City. Grand Junction is also a commercial and distribution center for the region, with a number of wholesale supply firms, a medical and educational center, and a broad array of professional services.

2.2 DEMOGRAPHIC DESCRIPTION

Table 2-1 compares census data for Rio Blanco, Garfield and Mesa Counties, all of which expect growth from oil shale development; Lake County, a mature mining area; and Colorado. Significant features include:

- Unemployment - In Rio Blanco County, unemployment in 1970 was low, only one-half of the Colorado rate. Other figures show that between 1971 and 1974 unemployment averaged only 2.9%. Rates for January and February, 1975, show that the county unemployment was 1.7% and 2.7% respectively. Compared with the United States and the State of Colorado, the county unemployment rate is an indicator of economic stability.
- Education - The median educational attainment for residents of Rio Blanco County is 12.4 years. Energy development recruiting should try to maintain this attainment level.
- Nonworker-Worker Ratio - This is a low ratio which taken together with the percentage of working females, is an indicator of multiple employment in the family.

Table 2-1

SELECTED CENSUS DATA (1970)

RIO BLANCO, GARFIELD, MESA AND LAKE COUNTIES
AND THE STATE OF COLORADO

County	Population	Median School Year Completed	Nonworker-Worker Ratio	% Working Females	% Unemployed
Rio Blanco	4,842	12.4	1.39:1	41.4	2.1
Garfield	14,821	12.2	1.33:1	41.0	4.9
Mesa	54,374	12.3	1.51:1	40.7	5.4
Lake	8,282	12.2	1.60:1	34.8	3.0
Colorado	2,207,259	12.4	1.39:1	42.6	4.2

Meeker and Rangely have had differing growth patterns due to their different economic bases. Even though Meeker and Rio Blanco County reflect a decline in population between 1960 and 1970, Rangely during part of that period was still experiencing growth from the oil field industry. Since 1973 (pop. 4,900)* the county as a whole has experienced growth.

*Source: Worksheets provided by the Division of Employment, State of Colorado.

Meeker has experienced a steady growth of 11% over the past five years. Rangely, according to the town administration, started to turn around from a decline (not reflected by these figures) in 1973 and grew by 12% between 1970 and 1975. The 11 and 12% growth rates reflect a growth that can be assimilated into existing social systems without strain.

Table 2-2

RIO BLANCO COUNTY AND THE TOWNS OF MEEKER AND RANGELY
POPULATIONS AND PERCENT CHANGES OVER PREVIOUS FIGURES

	1960	1970	1975
Rio Blanco County	5,150	4,842(-6.0%)	5,080(4.92%)[a] (1974)
Meeker	1,655	1,597(-3.5%)	1,772(11%)[b]
Rangely	1,464	1,591(8.7%)	1,784(12%)[c]

Source: U. S. Bureau of Census, 1960, 1970.
a. Worksheets from Division of Employment, State of Colorado April, 1975.
b. Based on percentage of population growth from County Planning Office.
c. Based on information from Rangely Community Survey.

Rangely has a significantly younger population than Meeker. The small percentage (3.7%) over sixty-five reflects the youth of the community itself.

Table 2-3

SELECTED CENSUS DATA FOR RANGELY AND MEEKER

	Population District*	
	Meeker	Rangely
Percent Under 18	34.3	36.2
Percent Over 65	12.5	3.7
Median Age	32.0	22.3

*Census Enumeration District which includes population beyond town limits.

Other statistics reveal:

- A predominantly white population in Rio Blanco County.
- An almost even distribution of males and females in Rio Blanco County.
- A high percentage of employment within the county of residence in Rio Blanco County. In 1970, only 2.4 percent of the persons residing in the County were working outside the County borders. This represents a history of doing work that is close to the home base of the two communities of Meeker and Rangely.
- A low degree of institutional care. The tax cost to the state for homes for the aged, or other types of institutions for social problems, is negligible. Against the population base of 4,842 for Rio Blanco County in 1970, there were only twelve people institutionalized. This is a positive characteristic which should be maintained during the growth and development in Rio Blanco County.

Source: U.S. Bureau of Census, 1970.

2.3 COMMUNITY INFRASTRUCTURE

A. Schools - Both Rangely and Meeker have additional student carrying capacity. Rangely is planning for the construction of an elementary school, essentially for replacement; however, the existing elementary building will be available to handle additional impact enrollment. Meeker has passed a bond issue and received money from Colorado's Oil Shale Trust Fund to build a replacement junior high school with expansion capacity. Meeker is also adding additional classrooms to the existing high school.

Rangely School District (Re-4) has a bonding capacity for schools of $15.7 million. It has $430,000 of school debt with an annual budget of $1.1 million. Meeker has a $950,000 bonded debt for schools and operates on an annual budget of $1,054,000. The Meeker School District (Re-1) has a bonding capacity for schools of $2.9 million. Only two other communities in western Colorado have more bonding capacity than Rangely: Glenwood Springs at $37 million and Grand Junction at $24.5 million.

Table 2-4

SCHOOL ENROLLMENT IN MEEKER, RANGELY, RIFLE, AND GRAND JUNCTION

	Enrollment	Student/Teacher Ratio
Rangely	608	15.0
Meeker	701	18.1
Rifle	15,831	18.4
Grand Junction	13,919	20.6

Source: Colorado Department of Education, September 1975.

The campus of Colorado Northwestern Community College is located at Rangely. This facility is presently under-utilized. Its present enrollment is 236 with a resident capacity of 500. Outreach classes are offered in Meeker, Craig, Steamboat Springs, Granby, Oak Creek, Kremmling and Walden. Hours of instruction for the total system provide for the equivalent of 400 full time students.

The curriculum at the campus features a Dental Hygiene Program and an Aviation Occupations Program. Other offerings include Business, Liberal Arts, Occupational Accounting, Special Education, Science, Secretarial Science, Horseshoeing, and Physical Education. The college is not a part of the state community college system of Colorado. The community college district boundaries are the same as the Re-4 School District.

B. Housing - Essentially all the housing units in Rangely and Meeker are filled. Fifty-five new units have been added in Rangely in 1975. New homes are sold before construction is completed. More than 20% of Rangely's housing units are mobile homes. Mobile home units constitute only 4.3% of Meeker's housing. Construction of a 400-unit mobile home park is scheduled to begin in 1976 and could quickly alter Meeker's housing profile.

C. Health Care - Both Rangely and Meeker have modern hospital facilities. Rangely's hospital provides services for twenty-eight beds. An attached

Table 2-5

SELECTED HOUSING CHARACTERISTICS FOR
RIO BLANCO COUNTY 1970

Total Population	4,842
No. of Housing Units	1,881
Changes 1960-1970 (%)	8.0
Median No. of Rooms	4.4
Structures Built in 1960 or Later (%)	14.7
Structures Built Before 1950 (%)	69.9
No. Occupied Units	1,474
Average Persons per Unit	3.2
Owner Occupied (%)	61.3
Median Value Owner Occupied ($)	12,532
Median Gross Rent Renter Occupied ($)	87
Moved into Unit During 1965-1970 (%)	51.6

Source: U.S. Department of Commerce, 1973.

clinic houses doctors' offices and manages routine medical care. Three part-time doctors not residing in Rangely serve the town on a continuous basis. Another semi-retired resident physician provides additional service. Meeker's facilities include a twenty-bed hospital and a nursing home. Two resident doctors serve the town and maintain separate offices.

There are no practicing dentists in Rangely. The dental hygiene clinic at Colorado Northwestern Community College provides dental care for minimal fees. School children from the surrounding areas are bused to the facility for free regular check-ups and treatments. One dentist practices in Meeker.

D. Water - Both Rangely's and Meeker's water systems are approaching capacity. Both communities have undertaken water system improvement projects. Rangely's water supply is presently provided by an intake from the White River and a treatment plant located just to the west of Douglas Creek. The plant capacity is 750,000 gallons per day which equals the town's summertime peak demand. The distribution system which serves the town was rebuilt in 1965 and is in good condition.

A new treatment plant for Rangely to be located on a 15-acre site north of Highway 64 and upstream from silt-laden Douglas Creek is now funded and is under design. It will be in operation by the summer of 1977. The existing plant will be retained, however, for emergencies and to provide service during future expansions of the new plant.

As planned, the total capacity of the new plant will be 6.2 million gallons per day to serve a population of approximately 10,000. Initial construction, however, will be for a 3.4 million-gallon-per-day capacity to serve a population of up to 5,000.

Meeker's water system, under construction, will bring water from four wells at the south side of the White River four miles southeast of Meeker. A new 18-inch transmission line, additional distribution lines, and new storage capacity will enable Meeker's water system to accommodate a design population of 7,800.

E. Sanitary - In Rangely, sewage collection and treatment is provided by the Rangely Sanitation District, the boundaries of which closely coincide with the town limits. The District owns a treatment plant located near the White River, west of White Avenue. The facility provides treatment by means of aerated lagoons, and has a design capacity of 160,000 gallons per day, not quite sufficient for 1,600 people under 1978 standards.

The state health department currently permits new sewer connections only within the District. The present system will not meet 1978 Colorado Health Department standards and the plant has not been operating in compliance with certain present standards for a number of years. For these reasons, the District is considering improvements that will provide a waste water treatment system capable of satisfying 1978 standards and properly serve the present and future residents.

The plant, as presently planned, will have an ultimate capacity to serve 10,000 people. Construction will be staged, however, to initially serve 4,000, with a second stage accommodating an additional population of up to 6,000. Press reports indicate funding for initial expansion will be provided from the Oil Shale Trust Fund.

Meeker's sewage treatment facilities are at capacity. A new facility is under construction to accommodate 4,000 people.

2.4 RESOURCE BASE OF RIO BLANCO COUNTY

Table 2-6 indicates an economic base balanced between the primary industries of agriculture and mineral recovery. The declining trend in these basic industries between 1960 and 1970 is matched by a sharp increase in the governmental category. This shift is common with a declining industrial economic base. Government activity tends to increase to provide support and replace lost industrial activity. It can be anticipated that with proper settlement and monitoring processes the advent of the oil shale industry will enhance the economic stability and reverse this trend.

Table 2-6

EMPLOYMENT BY INDUSTRY & PERCENTAGE COMPOSITION, 1970

PERCENTAGE GROWTH FOR RIO BLANCO COUNTY AND UNITED STATES, 1960-1970

Industry	Rio Blanco Employment	Rio Blanco Percentage Composition	Rio Blanco Percentage Employment Growth	United States Percentage Employment Growth
Agriculture	306	15.5%	-12.8%	-35.6%
Mining*	280	14.1	-34.3	- 5.7
Contract Construction	152	7.7	- 2.6	13.9
Manufacturing	42	2.1	-20.8	10.0
Transportation, Communication and Public Utilities	94	4.7	-40.1	12.4
Wholesale and Retail Trade	294	14.9	4.6	26.8
Finance, Insurance, and Real Estate	56	2.8	24.4	37.9
Services	603	30.5	30.2	42.8
Government	153	7.7	88.9	23.8
Total	1,980	100.0	-1.6%	19.5%

Source: From computer tapes provided by Regional Economics Information System, Bureau of Economic Analysis, U.S. Department of Commerce, 1974.

*Oil production is included under "Mining" in these Department of Commerce statistics.

Some 75.8% of Rio Blanco County is under federal ownership. The Federal land is managed by the Forest Service and the Bureau of Land Management. Farms comprise most of the remaining land. Because of the low percentage of irrigated land (5.3%), individual farms are large units with an average size of 3,273.9 acres used for grazing or dryland wheat farming.

2.5 COMMUNITY DESCRIPTIONS

A. Rangely - During FUND's initial descriptive phase, Rangely demonstrated itself to be a community with a capacity for expansion--socially, historically and geographically. One apparent strength of Rangely is that many current residents lived through the boom of the Rangely oil field in the late 1940's. It is a town that is used to having oil workers and associated industrial workers living and working in town. The town was built upon an oil industry which would be socially compatible with oil shale development. Residents have commented, "We are oil people, we'll understand them (oil shale employees)."

Although that oil field, the lifeblood of the community, is now producing as much oil as ever, the field is in its secondary recovery stage using intensive water injection methods. The life of the field is projected to be 25-30 years.

Rangely is positive about wanting to expand, wanting new growth, and "new blood". It was often expressed that "not to grow is to die." Residents are intent on maintaining Rangely as a desirable permanent community. Although Rangely's early days were marked by a transiency of oil workers, Rangely is now starting to reflect a more permanent character; 57% of the residents have been there for more than 10 years. People who came with the boom expected to be temporary, but Rangely has become home to many of those early arrivals. New people are moving in to make Rangely their home. Fifty-five new housing units took their places in Rangely last year and all are filled.

Another characteristic of Rangely, accompanying the boom, was a degree of powerlessness. Rangely existed as a growing town because the oil companies

were developing the resources of the basin. Their decisions largely dictated the events of Rangely's growth. Companies built their own camp communities, some on the periphery of the existing townsite, and some situated remotely in the field, without consideration for the cohesion of a community. When the field unitized under Chevron's management, Rangely's population dropped from about 4,000 to the present population of about 1,800. Rangely had no control over these decisions.

Rangely, however, has endeavored to exercise its rights. In the document "44 Year Disaster--Western Colorado Style," the authors detail the struggle of the Uinta Basin people to develop trade with Grand Junction*. This began in 1921, long before the Rangely field was brought into production in 1943. The citizens of the area, led by Grand Junction residents, desperately tried to get a road developed over Douglas Pass to what is now Rangely. The response of the state administrations of Governors Vivian, Knous, Johnson, Thornton and McNichols to develop a road was less than enthusiastic. The road was finally developed by a three-county coalition in 1960.

This example of Rangely's thwarted efforts to act in its own behalf demonstrates its position as a step-child within the state. The Salt Lake Telegram on April 29, 1947, editorialized:

> "Rangely, while in Colorado, actually has better communications westward into Utah than it has eastward into Colorado. There is every reason why this new community with its trade should be included in the Salt Lake City market area."

The patterns set in the past are still present today. Many residents still take weekly trips to Vernal for shopping, medical appointments and other needs. Rangely receives only Salt Lake City television stations, thereby reinforcing the isolation from Colorado state affairs.

Rangely's past and present problems have to do with attitudes, values and commitments that are formed in other places outside of Rangely's control. Rangely's spirit, however, has not been daunted. Achievements in the past thirty

*Transportation Council, Grand Junction Chamber of Commerce, August 19, 1965

years --schools, roads, their municipal buildings -- have been built with no outside help.

B. Meeker - Meeker is the historical center of a rich agricultural area. Economically, Meeker has diversified from its agricultural base. Many of the new Meeker residents work for the Federal or state governments. Less than half are employed in agriculture. Indications are that over 60 percent of Meeker's payroll comes from tax-supported employment. Meeker operates today as a semi-technical community with the technology primarily geared to the agricultural and natural resource management of Forest Service and BLM lands, private ranches, and other agricultural and state lands in this area. Meeker has had mining speculators living within its boundaries but has never had any significant number of miners or oil field workers.

People in the area are friendly and open. Socially, they function through a "taking care of" management system. People are comfortable with this management system and the benefits that have accrued from it. The Fairfield Community Center, accommodation of retired community members in controlled rent housing, use of school buses for community activities, easy and frequent cooperative production of community gatherings, banquets etc., natural absorption of potential runaway/castaway youths by other families--all are components of what FUND describes as Meeker's "taking care of" management.

Residents are not anti-growth, but they are worried about the preservation of this delicate system which is based upon predictability gained through common knowledge and trust. They are also afraid "the friendliness might be lost." However, residents know growth is coming. In fact, they eagerly anticipate certain economic development--"we need a good restaurant," "about time these stores had some competition"--but express a desire for a little slow growth or overflow growth at a pace that can be absorbed within the traditional "taking care of" system.

Residents have a good capacity to absorb newcomers at a slow rate. They view growth as happening in the future but in actuality it has been occurring

steadily. Meeker has had a slow growth rate of about eleven percent over a five-year period. This is based on a census taken by the senior class of Meeker High School. The figures were released by the County Planning Office. This rate of growth is seen in relation to a decline between 1970 and 1974 of four percent for the County as a whole, which means that other parts of the County have lost a substantial number of persons during that period while Meeker has gained population. The attractiveness of Meeker as a place to live is unquestioned.

People want to maintain the history and the agricultural character of the area. Comments include: "We don't want to see the ranches split up"; "Keep it westernaire." The preservation of the ranch lands has broader implications than aesthetics. Forest Service lands support, through range permits, the large private ranch lands that lie to the east of Meeker adjacent to Forest Service lands. Conversely, the ranches themselves provide additional habitat necessary for the survival of the adjacent deer and elk herds. The preservation of the herds in turn supports a portion of the economy through hunting license fees and through the generation of hunter/tourist activity.

In summary, the whole eastern half of Rio Blanco County is tied together around historic, social and economic values related to agriculture and recreational use of land. The people of Meeker desire to have slow, controlled growth to maintain an identity as an agricultural community, and to preserve their open, friendly, caring social patterns.

CHAPTER 3
IMPACTS OF RBOSP'S PRESENCE PRIOR TO FULL TRACT C-a DEVELOPMENT

CHAPTER 3
IMPACTS OF RBOSP'S PRESENCE PRIOR TO FULL TRACT C-a DEVELOPMENT

3.1 CURRENT STATUS

A. RBOSP Activities - In the past two years, RBOSP has made every effort to keep local citizenry and government officials apprised of progress on developing Tract C-a and involved in community policy decisions with respect to energy development. Public announcements regarding significant project decisions have been made as early as possible. In many instances, such announcements were made first in the local areas to avoid misinterpretation and resentment resulting from second-hand information filtering back to the communities involved.

RBOSP placed a community affairs representative in Grand Junction. He attends governmental meetings in Rangely, Meeker, and other area communities in an effort to facilitate communication between RBOSP and local officials. RBOSP representatives have consistently made themselves available to meet with local groups or individuals on various issues of mutual interest to the community and RBOSP.

Quarterly review meetings have been held regularly in Denver to keep local, state and Federal government officials current with project activities. Reports cover environmental studies, both physical and social, mining and retorting plans, as well as off-site plans and activities.

Local and state agencies also conducted planning studies in coordination with RBOSP's efforts. In the fall of 1974, Rio Blanco County and the towns of Meeker and Rangely retained James M. Bowers and Associates to begin a planning program in response to anticipated oil shale development. This program was funded jointly by $20,000 each from Gulf and Standard, and $40,000 from the companies developing Tract C-b. This $80,000 was matched by a Federal planning grant under the section 701 HUD program.

The first ten months of Bowers' work culminated with publication of a report entitled "Sketch Plans" in June 1975. This report contains a compilation of recommended policies and maps for each governmental jurisdiction: Rio Blanco County and the towns of Meeker and Rangely.

The Bowers report, "Sketch Plans," advances several concepts supported and desired by Rio Blanco Oil Shale Project, such as:

- Promote and maintain development within and contiguous to the existing town of Rangely.
- Expand Rangely onto adjacent Federally-owned lands presently administered by the Bureau of Land Management.
- Support development of a direct transportation (highway) link between Rangely and the interior of the Piceance Creek basin.

In January 1975, RBOSP formed a Community Development Study Team composed of RBOSP management and consultant staff to coordinate planning activities and to assist state and local governments whenever possible. They were to give primary attention to identifying and acting on possible social and economic problems which might be encountered in the development of Tract C-a. The work of the team led to the activities detailed below.

B. Consultant Activities - Three consultant organizations were retained to work actively on social, economic, and community development problems and to develop action programs for preventing and/or mitigating these problems.

1. Foundation for Urban and Neighborhood Development (FUND, Inc.) - Rio Blanco Oil Shale Project retained FUND in February 1975 to develop qualitative data concerning local attitudes, goals, decision-making and natural growth processes. The communities of Rangely and Meeker emerged from this initial study period as two unique community profiles which were reviewed in Chapter 2 (Baseline Data).

It was decided that an immediate implementation program would be necessary to keep negative impacts at a minimum. From the analysis of the field experience, FUND made several specific recommendations to RBOSP:

- Growth should be aimed toward Rangely where it can be more readily accepted and accommodated; creation of a new town in Rio Blanco County is totally opposed.
- Efforts should be made to control the rate and character of growth. The dimensions and impact of growth can be diminished by hiring through local networks, extended family networks, and traditional oilfield worker networks.
- Consider support for a municipal, non-profit community development corporation as an expansion method that controls "boom" speculation in land.
- Maintain a local presence communicating and working closely with the community and the area.
- Publicity should be specific and to the point of an issue. News release material should be predistributed in the local areas to minimize distortion and specualtion.
- Encourage local citizen participation to develop patterns of positive action.
- Contract with and encourage the development of locally owned and operated businesses.
- Coordinate with other energy and development interests for the purposes of:
    - phasing and reducing construction impact;
    - providing combined backing for projects of community and industry interest such as vocational training; and
    - increasing effectiveness of planning efforts for the entire energy region.
- Encourage development of Colorado Northwest Community College as a training resource facility.

On July 1, 1975, FUND was retained to carry on implementation of a social impact prevention process. This process involved discussion with project management on the compatibility of their philosophies and actions with the local citizens' community goals, and the review of information gathered by other members of the community development team.

From the community perspective, FUND worked to facilitate community action and participation. Efforts were directed toward several goals:

- To help citizens prepare for growth impact by becoming active in solving current problems so that later energy can be directed toward absorbing, accommodating, or rejecting impact.
- To avoid a situation referred to as "technical isolation" wherein community officials tend to become overpowered with duties concerning technical outsiders and therefore become isolated from their local constituency base. If officials and constituents alike are absorbed into these externally imposed planning problems, a broad base of community knowledge results, along with better community cohesion.
- To help the citizens develop their own communication network organization that is based on circulation of facts and not rumors. For positive citizen action, citizens must be able to secure their own facts, analyze these facts, and act on them.

To achieve these goals, FUND has involved itself in generating an active citizen base so that the community of Rangely could more effectively manage its internal affairs, address future impacts and establish itself as a strong cohesive community. In FUND's process, the first step is to gain an understanding of current communication networks, community problems, and issues.

The second step is to help local citizens address some of those community issues or problems. This involves working with the citizens, individually or in groups, to describe the problem, seek data to develop knowledge about the problem, design strategies to act, carry out action, and finally review the outcome. Issues dealt with in this fashion include helping a citizen

overcome obstacles to moving a house into town, encouraging community action leading to developing a day care center, and participating in the development of a comprehensive community plan.

As a third focus, it is important that citizens go through the above processes themselves in the resolution of their problem in order to understand the methods and techniques utilized so those processes can be applied to future action. Citizens gain the understanding and the skills to make their own activity productive.

The fourth step is to move from immediate, individual problems to developing concerted action as a community or interest group. Some of the above issues have moved on to this stage of general community involvement. The final step then is for the community to be able to maintain this degree of organization, knowledge and power so that they have the capacity to recognize and solve their problems themselves.

In actual practice, different individuals or groups move through this sequence at different rates. The development toward any given issue can be at different stages independent of other issues. An example of an issue that moved through the fourth stage of concerted community action was Rangely's frustration with its poor communication with the state. Citizens throughout the town expressed dissatisfaction with the step-child posture they felt Rangely has been forced to assume over the years. They were frustrated with actions on the state level that seemed to deny Rangely's desire to grow. Through a process of communication, questioning, and finally strategizing, Rangely sent a petition of over 300 signatures to the Governor, presenting Rangely's desire to grow and participate in the development of the oil shale industry.

Toward implementation of the above mentioned processes, FUND found it helpful to increase general community knowledge and facilitate communication within the community. In order to effectively develop strategies, it was necessary for community members to find accurate sources of information. In order to gain broad base support, it was necessary to dilute the power of the rumor systems by calling upon the alternative sources of knowledge.

Citizens were notified of relevant meetings and their attendance was encouraged. FUND gave support to the local newspaper by supplying news information and covering meetings with the citizens. Small group meetings sponsored by community members were held in homes and other places to discuss common problems, sources of information, and strategies for solving the problems. The greatest amount of communication took place through constant individual contact and talk, since "person-to-person" is the natural communication medium in Rangely.

Facilitating communication between RBOSP and the community became another concern for FUND's field staff. An on-site presence has allowed for continuous dialogue with community residents both on RBOSP policies and on facets of the GOREDCO planning effort. Newspaper articles and public meetings rarely make either intent or content entirely clear. FUND's presence has allowed its workers to reflect with residents, correcting misconceptions on such questions as the purpose of the plan, who will be responsible for implementing it, and how much control the community will have over it.

The basic accomplishment of FUND's involvement has been the realization on the part of the citizens that they can act effectively in their own behalf. Citizens are showing increased interest in community affairs through attendance and participation in meetings of the town council, county commissioners, Council of Governments, Joint Budget Committee, and other meetings that citizens have felt excluded from in the past.

Most significant are the new self-help programs in which citizens are engaged. These include development of a day-care center, formation of a recreation district, and mobilization around neighborhood issues. All of this activity leads to citizen preparation for impact issues. FUND believes that impacts can be turned to positive action best through strong citizen concern and participation.

2. Gulf Oil Real Estate Development Company (GOREDCO) - RBOSP retained GOREDCO in July 1975 to act on behalf of the Town of Rangely and Rio Blanco County in developing the following:

- A general master plan for Rangely to describe clearly, but in a general way, where homes, streets, businesses, recreational areas, schools, etc. may be expected to locate as growth occurs;
- A detailed plan to amplify the master plan by adding projected development schedules and cost analysis on area-by-area and stage-by-stage bases.

GOREDCO is preparing this plan in accordance with local views and needs, and has had several public meetings in Rangely in order to obtain local input. The plan is subject to local revision and adoption. It is being compiled as a tool to assist the citizens of Rangely in dealing with the physical demands of growth.

One of the principal concepts contained in the Rangely Master Plan is a guide for sequencing public and private developments which has been derived by current, refined projections of various public and private needs. This implementation section will stage improvements to initially complete building on the presently vacant building sites within the limits of the existing town. Subsequent town growth and improvements will be sequenced to relate directly to the incremental growth of population in Rangely. As other public leases or private oil shale tracts in the general area of Rangely may develop, additional modules of town growth can be commenced. The implementation section encompasses the most socially and environmentally conscientious and economically realistic pattern of development through time, and therefore should require only minor changes through time. The implementation plan can be accelerated or delayed as needed, depending on the rate of growth, which in turn will depend on the policies and programs of the Federal and private sectors.

The main objective is to create a high quality atmosphere where people can live, work, worship, and recreate as desired. The balanced community will be the optimum situation for employees, and will thus maximize the productivity of employees of Tract C-a and help assure that the employee turnover rate will remain as low as possible.

The Rangely Master Plan is now complete in recommended form. GOREDCO will have distributed copies of the text at a presentation of the plan to the Town Council and Planning Commission and Rio Blanco County officials during March 1976. After this meeting, the plan will have been made available to interested community organizations, civic groups, and to the general public.

After the Rangely Town Council, the Planning Commission, and interested citizens have had an opportunity to study the document, it will be subjected to the public hearing process and then, hopefully, adopted by the Council and Planning Commission. It is GOREDCO's recommendation that after the Rangely Council formally acts on the Plan, they then seek adoption of the Rangely Master Plan in its entirety as an amendment of the Rio Blanco Countywide Plan.

Even if interest in developing oil shale wanes once again, the methods of determining impacts on a community due to development of oil shale will be documented in the Rangely Master Plan. In the particular case of the Town of Rangely, the master plan should have validity for up to 20 years as a guide to growth management. In general, the concepts outlined in the text should be readily transferrable to other communities facing energy industry impacts.

The Rangely Master Plan when adopted and approved by the town of Rangely is considered an integral and essential part of this social and economic impact statement.

3. Morrison-Knudsen Company, Inc. (M-K) - The overall engineering contract with M-K included community development studies for use in human resource planning. A preliminary report by M-K dated August 1975 provided the following:

- Inventory of available community facilities in Rangely, Meeker and surrounding areas.
- Construction and operating manpower schedules.
- Current census data and population and employment projections.
- Housing data and projections.
- Projections of land needs.
- Generalized community needs and functions.

Morrison-Knudsen was further commissioned to compile data and assessments of projected developments in the four-state area of Colorado, Montana, Utah, and Wyoming in mining, processing, and the development of other heavy construction activities, and more particularly power-related facilities. The purpose of this assessment was to determine projected manpower needs for a five-year period from 1975 to 1980. The most significant assessment coming from this evaluation was an increase in projected mining personnel, wherein figures indicated the demand would increase two and one-half times in the five-year period, from a level of approximately 6,700 to almost 16,000. The study also showed there would be a fluctuating demand for related skills in highway construction, the development of coal facilities, and in power plant construction, as shown in Table 3-1, which was prepared before recent announcements in the fall of 1975 concerning the delay in several oil shale developments in Colorado.

General conclusions were reached in relation to manpower evaluations made for the five-year period. They were:

- A major manpower plan should be developed, giving special consideration to recruitment, selection, placement, utilization, advancement and promotion for personnel necessary to construct, maintain, and operate Tract C-a facilities.
- An inventory as to quality and quantity of local area and regional human resources should be made for the purpose of determining the primary area for recruiting necessary personnel, and in concentric circles beyond the primary area where it would be necessary to conduct recruiting on a progressive basis if the primary area failed to meet requirements.

A decision was made to inventory the human resources in northwest Colorado, and specifically in the ten northwest counties of Delta, Eagle, Garfield, Grand, Jackson, Mesa, Moffat, Pitkin, Rio Blanco, and Routt. The inventory reflected:

Table 3-1

ESTIMATED EMPLOYMENT PROJECTIONS THROUGH 1980
COLORADO, MONTANA, UTAH, AND WYOMING

	1976	1977	1978	1979	1980
Highway Construction					
Colorado	2,000	1,825	1,825	1,740	1,740
Montana	1,250	1,120	1,120	1,520	1,520
Utah	1,250	1,250	1,250	1,250	1,250
Wyoming	1,250	1,137	1,137	1,087	1,087
4-State Total	5,750	5,332	5,332	5,597	5,597
Coal Facilities					
Colorado	285	285	175	-	-
Montana	1,000	1,200	3,500	2,000	1,000
Utah	100	125	-	-	-
Wyoming	1,997	1,558	1,470	1,068	400
4-State Total	3,382	3,168	5,145	3,068	1,400
Coal Mining					
Colorado	1,833	2,417	2,817	3,087	3,087
Montana	560	867	1,184	1,651	1,800
Utah	2,920	3,358	3,960	4,470	5,000
Wyoming	3,222	4,164	4,848	5,433	5,913
4-State Total	8,535	10,806	12,809	14,641	15,800
Power Plant Construction					
Colorado	1,454	1,246	769	700	115
Montana	900	970	1,000	300	30
Utah	2,440	4,476	5,895	5,420	1,765
Wyoming	1,738	1,580	150	-	-
4-State Total	6,532	8,272	7,814	6,420	1,910
Oil Shale Development					
Colorado	1,000	2,000	1,400	1,150	900
TOTALS					
Colorado	6,572	7,773	6,986	6,677	5,842
Montana	3,710	4,157	6,804	5,471	4,350
Utah	6,710	9,209	11,105	11,140	8,015
Wyoming	8,207	8,439	7,605	7,588	7,400
4-State Total	25,199	29,578	32,500	30,876	25,607

- total population by county
- male-female composition
- minority composition
- age group composition
- work force distribution
- educational background
- family income:
  - median average
  - mean average
- average per capita income
- a control figure of an average hourly wage rate based on the average per capita income which would be required to sustain a family of four through 2,080 compensated clock hours per year

All data were based on the 1970 Census and a bar graph was prepared for each county so each county could be readily compared with another, and a composite graph was drawn for all ten counties (see Appendix B). Indicated total population for the ten counties as of June 1975 was 130,000, of which approximately 35,000 were below 19 years of age, and 20,000 were between the ages of 20 and 39, indicating a major supply of population at relatively young age levels. The composite also indicated that the median school years for all ten counties exceeded 12, which is a high educational level.

The information contained in the assessments and inventories was discussed with educational representatives at Federal, state, and regional levels and in open public meetings at local levels in both Rangely and Meeker. The purpose of these meetings was to obtain reaction to a concept for development, on a cooperative basis, of programs for enhancing the selection, placement, and utilization of residents of Colorado in the development of Tract C-a. These discussions included the evaluation of possible pilot-type programs. All representatives showed a high interest and a desire for more meetings to discuss on a pilot or any other basis:

- Possible curricula development
- Mutually developed counseling programs

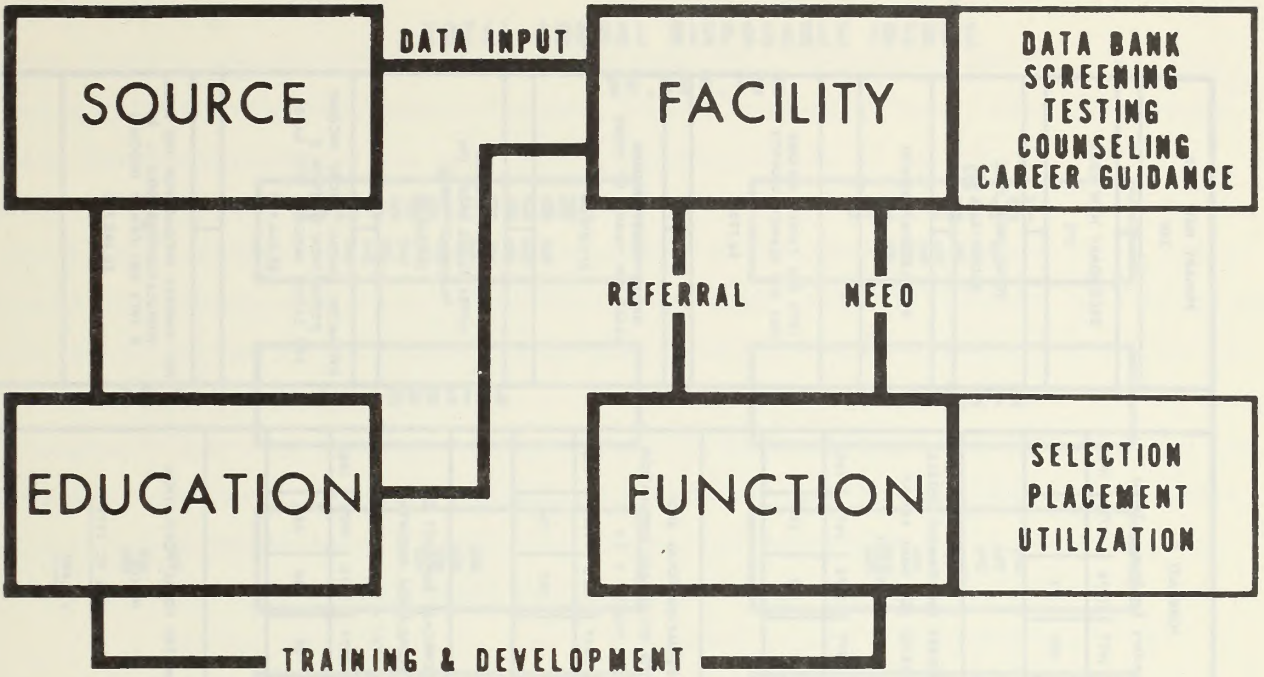
- More meaningful career guidance programs
- Coordination between on-the-job training and job-related education development
- Skill upgrading
- Retraining
- Rehabilitative training
- Mitigation of underachievement
- Development of functional training as opposed to limited classification training
- Multiple skill training

Figure 3-1 depicts a possible process for coordinating human resources with training to fill industry's needs.

The next assignment of Morrison-Knudsen Company, Inc., was to conduct in Rangely a total human resource inventory of current primary and secondary enterprises coupled with a five-year manpower forecast, including a sample of the permanent operating and maintenance work force for Rio Blanco Oil Shale Project. This was done, and the product of the inventory and the forecast was incorporated in a specially designed sample module for manpower planning to be used as a part of community planning, and was presented to the citizens of Rangely and was explained in a public meeting.

The sample employment forecasts, primary and secondary, also incorporated projected population growth. The population growth data was converted to gross economic income and spendable income data, which was graphically represented in a dispersement chart and was also presented in the same public meeting to the citizens of Rangely. Figures 3-2 and 3-3 are the charts used in that public meeting.

C. Positive Impacts from RBOSP Involvement - The following are positive effects that will, and in some instances, already do exist because of current interest in oil shale development as well as the presence of RBOSP personnel before Tract C-a development begins:



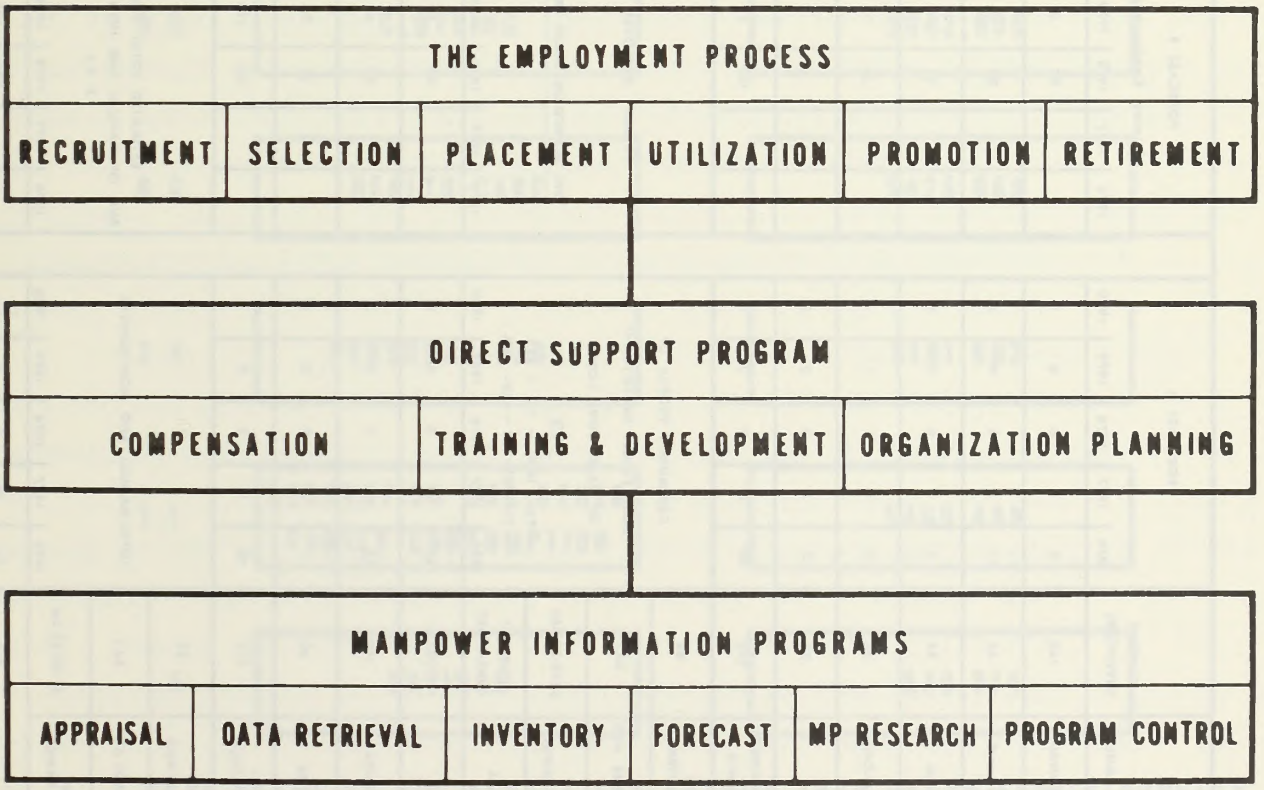


Figure 3-1

HUMAN RESOURCE PLANNING & IMPLEMENTATION PROCESS

NON-MANUAL	CURRENT INVENTORY	FORECAST A 1976	1977	1978	1979	1980
Administrative	143	5	4	0	0	0
Professional	45	11	5	0	0	0
Technical	34	4	5	0	0	0
Clerical-Office	86	9	2	1	1	1
Sales	32	5	5	3	2	3
NON-MANUAL TOTALS	340	34	21	4	3	4
NO. OF FIRMS	89					
AVERAGE AGE	38.7					
SALARY RANGE	$250-$2,666					
MANUAL	CURRENT INVENTORY	1976	1977	1978	1979	1980
Skilled	207	47	10	0	0	0
Semi-Skilled	110	12	5	2	3	2
Unskilled	60	1	2	0	0	0
MANUAL TOTALS	377	60	17	2	3	2
NO. OF FIRMS	55					
AVERAGE AGE	34.1					
SALARY RANGE	$1.50-$9.24					
	717	94	38	6	6	6

COMMUNITY PROFILE OF DUAL FAMILY EMPLOYMENT OF BASE WORK FORCE-

48%

Pop. 1690 ÷ 3.5 = 483

717-483=234 ÷ 483= 48%

FORECAST B Primary Employment	1976	1977	1978	1979	1980
			60	5	
			20	5	
			10	10	
			10	10	
			100	30	
PRIMARY EMPLOYER					
RIO BLANCO OIL SHALE PROJECT					
	1976	1977	1978	1979	1980
			60	60	
			30	40	
			10	20	
			100	120	
ESTIMATED TOTAL PPG = SUM OF MANUAL AND NON-MANUAL X 3.5					
	1976	1977	1978	1979	1980
			700	525	

FORECAST C Secondary Employment Totals	1976	1977	1978	1979	1980
		100	75		
SECONDARY EMPLOYMENT TOTALS ADJUSTED FOR DUAL FAMILY EMPLOYMENT					
	1976	1977	1978	1979	1980
			52	39	
ESTIMATED TOTAL SPG= ADJUSTED SECONDARY POPULATION FACTOR X 3.5					
	1976	1977	1978	1979	1980
			182	136	
FORECAST SUMMARY OF POPULATION GROWTH ="A" + PPG + SPG					
	1976	1977	1978	1979	1980
	94	38	888	689	

ESTIMATED TOTAL POPULATION INFLUX FROM 1976 TO 1979 = 1,687

PRIMARY NEW JOBS
350

SECONDARY NEW JOBS
175

TOTAL NEW JOBS
525 + 150= 675

POPULATION GROWTH
1,687

1973 PER CAPITA INCOME FOR RIO BLANCO COUNTY
$4,770

GROSS YEARLY INCOME BASED ON FAMILY OF THREE
$14,310.00

NET FAMILY INCOME (AFTER TAXES, BASED ON FAMILY OF THREE)
$11,520.00

ESTIMATED ANNUAL GROSS INCOME (POPULATION GROWTH X PER CAPITA INCOME, 1973 BASE)
$8,046,990

NET ANNUAL INCOME FOR THE AREA (POPULATION GROWTH — 3 X 1973 NET FAMILY INCOME)
$6,485,760

Figure 3-2

SAMPLE POPULATION & INCOME PROJECTIONS

TOTAL ANNUAL DISPOSABLE INCOME
$6,485,760

%	DISPOSABLE INCOME EXPENDITURES	AREA IMPACT DOLLARS
29.7	HOUSING	$1,926,272
32.6	FOOD	$2,114,357
10.7	TRANSPORTATION	$693,976
9.9	CLOTHING	$642,090
6.6	HEALTH CARE	$428,060
2.8	PERSONAL CARE	$181,602
7.1	RECREATION AND OTHER FAMILY CONSUMPTION	$460,489
.6	SAVINGS	$38,914

DATA BASED ON BLS REPORT FOR AUTUMN 1974 URBAN FAMILY BUDGETS

Figure 3-3

TYPICAL DISPOSABLE INCOME EXPENDITURES

- Establishment of communication links with Rio Blanco project staff, particularly through formal channels, enabling current status information to be incorporated into town and county management plans.
- Increased community consciousness and individual knowledge leading to the development of abilities to handle future impacts. The field methods of FUND, GOREDCO and M-K were based on a process of educating local citizenry and encouraging their participation in future decision-making.
- Initial mobilization of the community to undertake positive concerted community action in their own behalf. Community members have effectively taken steps to remove their traditional "step-child" status and have begun again to establish Rangely as a strong cohesive community.
- Improved communications and awareness on the part of state and regional educational representatives of the importance of planned human resource development in cooperation with industry.
- Better understanding on the part of the citizens of the area of composition of their population, their educational level and the high quality which it represents, and an increased pride in that quality.
- A better understanding by the citizens of the area of the distribution of gross spendable income within a community, and how it is recirculated.
- Development of an awareness on the part of local businesses that projecting and planning for future work force requirements can take place and be of benefit to their businesses.
- Recognition by industry, government and other private sectors of the importance of incorporating human resource planning as an integral part of community impact planning.
- Documentation in the Rangely Master Plan of the methods of determining impacts on the community of Rangely and a method of programming the mitigating measures in a timely, cost-effective manner. This background will be usable at any level of oil shale development.
- Development of a method of calculating oil shale employment and related elements for other soon-to-be impacted communities. With

slight modifications, the methods outlined in the master plan document should be transferable to any geographic area and other energy industries.

- Presence of industry personnel and consultants in communities contributed their skills and talents to helping citizens work to solve their problems. In addition, this presence has allowed residents and personnel to become acquainted in an evolving manner on a person-to-person basis.
- Benefits to other energy enterprises from the intensive study in the research and development of the community implications of oil shale development. Through Rio Blanco's preparation for development, a more cost-effective, more human and less disruptive manner of preparing the industry, the development tracts and the respective communities will have been defined.

D. Current Community Issues That Need Immediate Attention

1. GOREDCO's Rangely Master Plan - In order for citizens to adopt this plan as their own, considerable time must be spent reviewing it. Citizens will need to understand and resolve any apparent conflicts between citizen opinion input and concepts and implementations presented in the plan. Then, assuming adoption, individuals and governmental bodies will need to be informed as to the use of its staging schedule and other implementation procedures.

2. Possible Construction Impact - If construction on the access road begins this Spring (1976), an immediate impact will be felt. This will be a preliminary growth impact phase which will present an immediate demonstration of the problems and needs the community will be facing in the future. It will also provide the primary opportunity for citizens to demonstrate their ability to deal with those problems.

3. Information Facilitation for Informed Action - Regardless of timing on construction of the road, citizens should continue to be kept apprised of and involved in developments during the DDP review period. They should be kept

informed of legislation relevant to the project and to their community and involved in consequent decision-making on issues such as the status of the road to Rangely, the acquistion of BLM lands for community development, severance tax proposals, etc., so they can respond to those issues.

4. Advice and Assistance to Project Staff - Rio Blanco Oil Shale Project will be engaged with questions and requests from the Area Oil Shale Supervisor with regard to social and economic impacts during the DDP review period. It will be necessary to help the community provide project staff with back-up information and strategies to answer or mitigate those questions.

5. Ordinance Review and Codification - Rangely is updating and recodifying its municipal ordinances and has requested assistance from FUND for this effort. After codification and publication, the ordinances will be organized enough for citizens to participate in revision, amendment and rewriting. With the adoption of the master plan citizens can gain a practical understanding of what the ordinances are and what they can or cannot achieve.

6. Home Rule - The Town Council is also looking at the possibilities of becoming a Home Rule town, a process in which they are interested in educating and involving the community.

7. Colorado Northwestern Community College - The college is in the final stages of accreditation from the North Central Association of Colleges and Secondary Schools. The college will have a major role in developing suitable curricula to help prepare local residents for the job opportunities which will result from the development of oil shale.

8. Western Rio Blanco Metropolitan Park and Recreation District - On March 23, 1976 the citizens of the same area as Rangely School District (Re-4) voted on the question of forming a metropolitan Park and Recreation District. Assuming approval of the issue, this will provide means to effectively deal with park and recreation needs resulting from growth of Rangely. Cooperation among the Town Council, School Board, and the board of the Park and Recreation District can bring significant benefits to the citizens of all three jurisdictions.

9. Citizen Action - The community must be able to maintain a high degree of organization, knowledge, development and independent action. Citizens of Rangely are learning to act in their own behalf and are becoming effective in working toward common goals.

10. Effective Participation - To support citizen self-help programs and involvement, a citizen-designed "Guide to Effective Citizen Participation" could be considered as a resource for mitigating social impact. The "Guide" could include emergency telephone numbers, do's and don't's of Rangely laws, and what to do in various situations. Such a guide would be a useful item for the Town Council or the Chamber of Commerce to consider, and would be especially useful to newcomers.

3.2 IMPACTS IF OIL SHALE DEVELOPMENT DOES NOT PROCEED

A. Positive Impacts - Rangely will still have the benefit of the methods and information incorporated in the Rangely Master Plan. Increased knowledge and community consciousness will aid the area in future decision-making. Educational and industry representatives will have gained insights into human resource development. Government agencies, industry and local citizens will have an understanding of growth management possibilities. This increased knowledge, awareness, and participation will have been part of a growth process that will aid all parties in their future activities.

B. Negative Impacts - The nation's need for alternative sources of energy is absolute and while oil shale development may well be delayed by political action or inaction, abandonment of this abundant resource does not appear to be in the nation's best interest.

The potentially most damaging effect of delay will be the wasteful additional monetary and environmental cost of inefficient "crash" development should the OPEC cartel impose another embargo or raise the price of imported oil to a prohibitive level. Should oil shale development be delayed, there will also be a significant economic letdown in the area. Although no development has taken place yet, the anticipation of development has led to some land and housing speculation.

CHAPTER 4
IMPACTS & MITIGATIONS FOR TRACT C-a DEVELOPMENT

CHAPTER 4
IMPACTS & MITIGATIONS FOR TRACT C-a DEVELOPMENT

This chapter describes first the Tract C-a construction and operating schedule and the resultant employment and population projections, then identifies anticipated social and economic impacts and mitigation procedures.

The population projections presented herein are maximums that would occur if RBOSP's entire work force were recruited or encouraged to emigrate from outside the area or region. This would result in the maximum social and economic impact on Rangely and other communities.

Many elements in the community of Rangely will be impacted socially and economically by Tract C-a development. In the community planning process, considerable attention is being focused upon mitigation of most of these physical elements. These mitigations are outlined in the Rangely Master Plan and unless relevant to this chapter, will not be repeated here. This chapter will deal with human impacts and recommend specific mitigation measures to deal with them.

RBOSP's objective is to be associated with community growth and development that will provide the necessary numbers of workers and families with the least disruption to existing communities. Devising methods of recruiting workers and families with life styles and goals comparable to those of current residents and encouraging more young people (who would otherwise leave the area) to work for RBOSP are examples of specific action programs to achieve that objective.

4.1 TRACT C-a DEVELOPMENT SCHEDULE AND POPULATION PROJECTIONS

As outlined in the detailed development plan, development of Tract C-a will consist of open pit mining, off-tract surface retorting, and off-tract disposal

of processed shale and overburden, and will be undertaken in two operating phases, each preceded by three-year construction periods. Phase I operation will consist of two stages; first one retort module will be operated, then two. This modular approach will provide RBOSP the opportunity to gain operating experience, improve process efficiency and confirm capital and operating costs before a full-scale oil shale complex is built. Phase II will be the commercial-scale complex.

RBOSP's construction and operating schedule for Tract C-a development is summarized in Figure 4-1. Activities are assumed to begin in May 1976 with county construction of an access road from Rangely to the tract, followed in September by the construction of a power transmission line by Moon Lake Electric Association from Moon Lake's existing 138-KV line to the tract.

The plan calls for construction activities at the project site to begin in April 1977 when construction of the Phase I - Stage 1 off-tract processing facility will begin; initial development of the open pit mine will begin in August 1977. Meanwhile, a communications cable will be installed by Mountain Bell Telephone Company from Rangely to the tract during the summer months of 1977. Thus, by the end of 1977, the construction of support facilities (roads, power line, and communications) will have been completed, with the exception of the product pipeline, and mine development and processing facility construction will be underway.

The product pipeline from the tract to Rangely will be installed during the summer of 1978. Mine development and construction of the Phase I - Stage 1 processing facility will be completed a year later, during the summer of 1979; Phase I - Stage 1 operations will then begin in August 1979.

Construction of the Phase I - Stage 2 processing facility will begin in July 1980 during Stage 1 operations. Stage 2 operations will then begin in August 1982. Construction of the Phase II commercial-scale facility will begin when Stage 2 operations begin. Operation of the full-scale commercial facility will begin in August 1985.

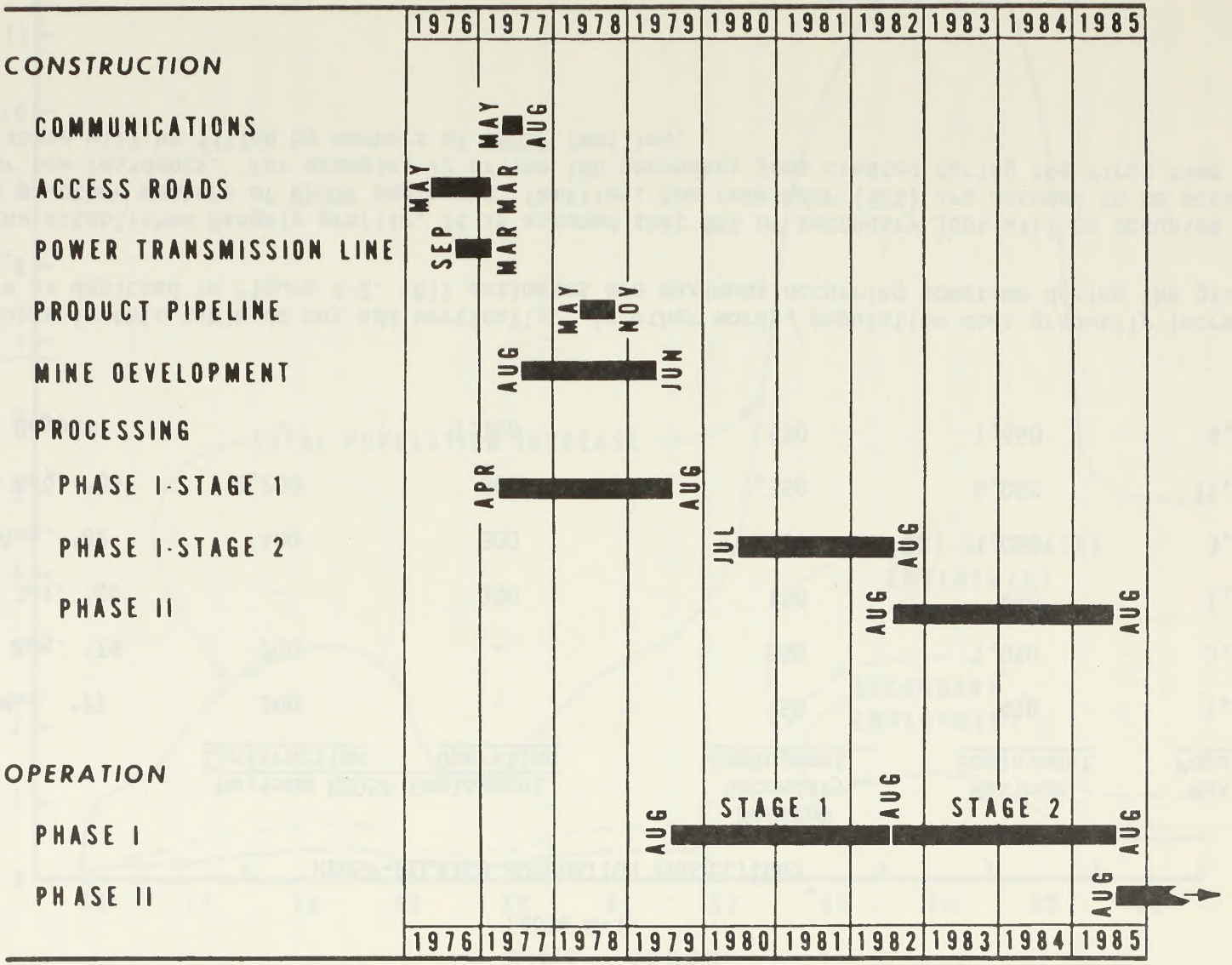


Figure 4-1

RBOSP CONSTRUCTION AND OPERATION SCHEDULE

Table 4-1

RBOSP-RELATED POPULATION PROJECTIONS*

	Maximum RBOSP Employment		Maximum Secondary** Employment	Maximum Employment	Maximum Population
	Construction	Operating			
May '76 - Mar. '77	300	-	150	450	1,300
Apr. '77 - Aug. '79	700	-	350	1,050	3,000
Aug. '79 - Jul. '80	-	300	150	450	1,300
Jul '80 - Aug. '82	400	300	350	1,050	3,000
Aug. '82 - Aug. '85	2,200	500	1,350	4,050	11,900
Aug. '85 & Beyond	-	1,100	550	1,650	4,850

---

* The numbers in this table do not add vertically. In other words, population does gradually increase and decrease as depicted in Figure 4-2. All estimates are maximums occurring sometime during the given time periods.

** Using the established Rangely profile, it is assumed that 48% of secondary jobs will be occupied by spouses or other members of RBOSP employees' families; the remainder (52%) are assumed to be occupied by other new residents. For example, 72 of the 150 secondary jobs created during the first time period listed above will be filled by members of RBOSP families.

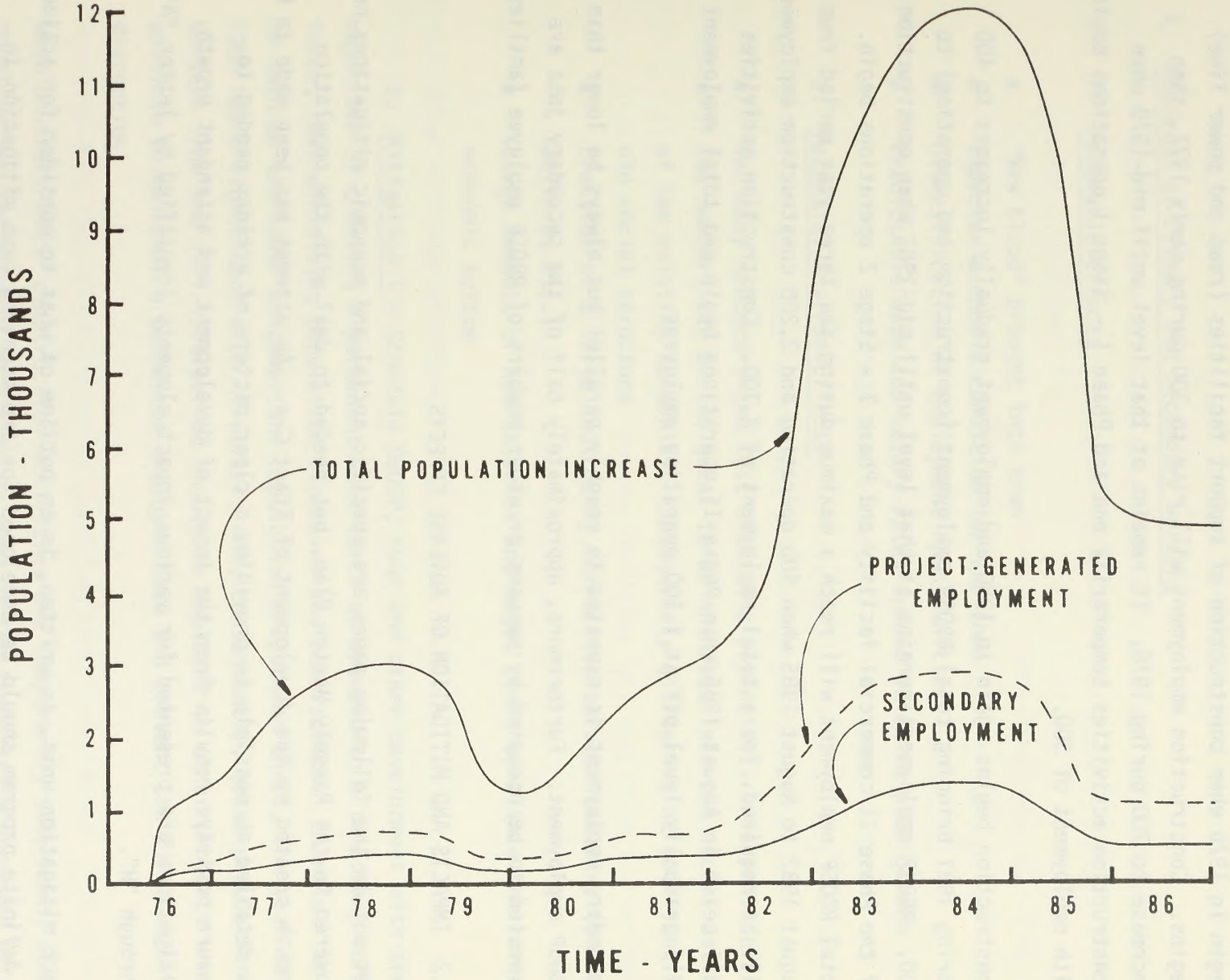


Figure 4-2

PROJECTION OF NEW POPULATION ATTRIBUTABLE TO TRACT C-a DEVELOPMENT

Table 4-1 and Figure 4-2 are summaries of estimated population projections attributable to Tract C-a development. Contractor employment is assumed to begin in 1976 when construction of support facilities (road and power line) begins. Construction employment will rise to 300 during early 1977, then increase to 700 during 1978. It remains at that level until mid-1979 when construction activities temporarily end and Phase I - Stage 1 operations begin with employment of 300.

Construction begins again in 1980 and employment gradually increases to 400 during 1981 bringing total RBOSP employment (construction and operation) to 700. RBOSP employment remains at that level until mid-1982 when construction of the Phase II commercial facility and Phase I - Stage 2 operations begin. Total RBOSP employment will reach a maximum during the three-year period from August 1982 to August 1985 when 500 operating and 2,200 construction employees will be required, for a total employment of 2,700. Construction activities will cease in August 1985 when Phase II operations begin and total employment will gradually level off at 1,100 operating employees.

Secondary employment is expected to roughly parallel but always be lower than RBOSP employment. Furthermore, approximately half of the secondary jobs are expected to be occupied by spouses or other members of RBOSP employee families.

4.2 IMPACTS AND MITIGATION OF ADVERSE EFFECTS

Set out in the following pages are specific social and economic mitigations not covered in the Rangely Master Plan, but needed to deal with the population growth created by the development of Tract C-a. An attempt has been made to be as detailed as possible in providing a clear picture of actions needed to ensure positive results from the impact of development and attendant growth. Mitigations are presented for various impact elements identified by letter "A" through "H".

Each mitigation unit, as written, is an outline of what to consider for action. A definite program should be developed for implementing each mitigation in order for it to be carried out to its fullest. These programs (or strategies

for developing them) should be developed in advance of the anticipated impacts so that negative elements can be held to a minimum.

A. Addition of Primary and Secondary Workers

1. Favorable Effects

- "New blood" brought into town
- Improved economic condition for the town
- Diversification of employment opportunities
- Predictable wage and salary rates around which to plan growth

2. Potential Adverse Effects

- Too many newcomers too fast creates a potentially uncontrollable boom
- The numbers can be too great to be absorbed into the social patterns of the existing community, consequently disrupting or modifying the old social structure
- Creation of a large and costly corrective service industry (police, welfare, etc.)
- Large amounts of new salaries and wages could unbalance the current economic system

3. Mitigation 1 - Schedule RBOSP, town and other development with the objective of creating a permanent work force as opposed to a temporary work force, thus minimizing population expansion and contraction. Example: as can be seen on the RBOSP manpower and population projection chart, the year 1979-1980 has a significant drop of workers and, consequently, total population. Workers from the 1977-1979 period should be employed in other projects where possible to maintain a permanent employee base and prevent the first major disruption.

When on-tract RBOSP construction activities are temporarily suspended, other construction needs could be filled by some of the temporarily unneeded workers. Road construction, town improvements, and support improvements (such as additional housing) could all be scheduled to keep the construction force at a

consistent level throughout the first five years of RBOSP activity. Representatives from the responsible organizations, and other interested parties, should meet to develop this scheduling.

RESPONSIBILITY: The town of Rangely, Rio Blanco County and RBOSP and other energy developers.

COST: No additional cost.

4. Mitigation 2 - To reduce the maximum impact caused by introducing large numbers of strangers to the area, the project should recruit operating and management personnel in the following sequence:

- Recruit local residents of the county first with emphasis on the youth who are leaving the county and region at the present time. The more local people hired and retained in the area, the less the negative social impact on the town.

  RESPONSIBILITY: RBOSP, citizens, local schools.

  COST: Normal recruitment costs

- Recruit from the 10-county Colorado region described in Chapter 3. People sharing common historic and geographic knowledge are more readily absorbed into existing small town social systems.

  RESPONSIBILITY: RBOSP, COG, counties, Colorado Department of Labor and Employment

  COST: Normal recruitment costs

- Recruit from the old Rangely network families who have lived in Rangely in the past. Such networks are located in Oklahoma, Texas, and southern California. People familiar with old Rangely will have less impact as returning citizens than would strangers.

RESPONSIBILITY: RBOSP, citizens of Rangely

COST: Normal recruitment costs

- Recruit, on a statewide program basis, Colorado residents who desire to relocate in northwest Colorado and participate in energy development occupations.

RESPONSIBILITY: RBOSP, Colorado Department of Labor

COST: Normal recruitment costs

5. Mitigation 3 - Develop specific recruitment and training programs in cooperation with the State of Colorado and the Federal government to hire, from Colorado, the unemployed, underemployed, and those unemployable because of a lack of skills and education. In this instance, the development of oil shale can act as a positive social impact to all of Colorado by removing people from costly social welfare programs, thereby resulting in a net human and economic gain for Colorado. At the specific community level, the state, Federal government, RBOSP and citizens will become cooperative partners in creating a successful program.

RESPONSIBILITY: The Governor of Colorado should appoint a committee to address this issue of unemployment, underemployment and the unemployable as it relates to all energy growth and development areas. The committee should be composed of energy company representatives, citizens (including minorities), and other knowledgeable people interested in this problem. Specific companies, such as RBOSP, should take leadership in their own area of impact to cooperate directly with and support the program. Financing of this program should be the responsibility of Federal and state governments.

COST: Resettlement and training as described above is estimated to vary from $3,000 to $7,000 per person. In addition, it will cost an estimated $55,000 to start an on-site program in Rangely.

6. Mitigation 4 - To increase the viability, options, and contributions to the community by new workers, multi-skill training for diversified jobs and professions before start-up should be considered. Such multi-skill training will include:

- Entry-level training for employment by RBOSP at all levels of production where feasible.
- Constant skill upgrading within RBOSP to help each individual reach his optimum level of development.
- Opening occupations to women (through special training programs) which have traditionally not been available to them.
- Options for retraining for other professions, jobs, or self-owned businesses as a means of fostering economic diversification and reducing one-industry dominance of the region.
- Degree credit at the two-year and four-year level should be built into all training programs, where appropriate and feasible, to support the individual who participates in the training. This can be accomplished by making use of the many "University Without Walls" programs that exist throughout the state and nation. Some of the degree- granting institutions in Colorado for non-resident degrees are:

  -Loretto Heights College
  -Metro State College
  -University of Northern Colorado
  -Juarez-Lincoln College, Denver
  -Antioch College, of Yellow Springs, Ohio, through Loretto Heights and Juarez-Lincoln

RESPONSIBILITY: RBOSP, Colorado Northwestern Community College, the State Board for Community Colleges and Occupational Education, and the Commission on Higher Education will have leadership functions for starting, continuing, and monitoring these programs. The town of Rangely, citizen groups and the public school system can work cooperatively with RBOSP and the college on community and curriculum options that can be developed to improve present performance before entering special programs. Responsibility for integrating the degree programs will rest with educational agencies of the state government.

COST: Gulf and Standard have educational assistance programs which provide substantial financial assistance to all full-time regular employees who take approved courses of an educational and vocational nature which will benefit both the employees and the companies. The courses are to be taken on the employee's own time. The courses must add to the employee's activities in his present assignment and contribute to the individual's over-all development. Temporary, casual or part-time employees are not eligible for this assistance. In general, these programs reimburse the employee for 75% of certain costs which include tuition, registration, laboratory and other fees. There is no reimbursement for books or time spent. A similar policy for full-time employees of the project will probably be adopted.

7. Mitigation 5 - A life-options youth employment program to provide encouragement, job opportunity and training to young residents of the area should be considered as a separate program. Options for encouraging youth to stay and participate in energy occupations is vital in reducing negative social impact. The more youth who stay, the fewer the outsiders and strangers that will have to be brought into the area.

A special community/public school program should be considered that directly helps youth look closely at options for staying or leaving. The company can support this program with technical assistance and hiring policies.

A large range of learning experiences can be devised to enhance the school program. They include: exposure to management and decision-making personnel on a one-to-one basis, vocational one-to-one office work, cooperative work/study programs, vocational/technical on-the-job training and other active, participative programs.

RESPONSIBILITY: RBOSP, citizens, town, public schools, community college.

COST: Up to $125,000 for a three-year pilot program, depending on participation of above groups. Source of these funds can be private foundations, state appropriations, or Federal educational grant programs.

8. Mitigation 6 - The Rangely Chamber of Commerce and affiliated businesses should develop an understanding of the impact of increased wages and salaries as a result of RBOSP activity. The county or state may be entering into road construction contracts before RBOSP begins on-site development of Tract C-a. These contracts should be monitored as to the economic trend they will establish. The settlement of permanent workers in the area will allow for economic adjustments to take place in a normal process over a period of time.

RESPONSIBILITY: COG, county, town of Rangely, local Chamber of Commerce

COST: Absorbed in current on-going programs of the above by adjusting to changing wage structure.

B. Addition of Temporary Residents - Addition of several thousand residents to the town of Rangely and Rio Blanco county during the three-year period from mid-1982 to mid-1985. In addition to the mitigations listed below, mitigations for this impact element include all physical and social planning conducted to date, as discussed in Chapter 3. RBOSP's objective has been to avoid or minimize this impact, but a temporary population impact of significant proportion is unavoidable.

1. Favorable Effects

- Employment in 3,000 primary and secondary jobs for this 3-year period.
- Increase in economic base.

2. Potential Adverse Effects

- Temporary residents are disruptive to the social structure of a town and create demands on schools and other facilities for which permanent residents ultimately pay.
- Present social and economic relationships among permanent residents are disrupted and the result is often an increase in crime and other social problems.

- Taxes may increase to support welfare payments and other social dislocations caused by the influx.
- After temporary people leave, extra facilities and services often remain without any way of escaping upkeep or program maintenance costs.

3. Mitigation 1 - Small numbers of temporary workers can be absorbed through an active settlement program run by the citizens. This settlement program is discussed later in more detail in "H-Settlement Assistance Program".

4. Mitigation 2 - Temporary impacts of significant numbers should be dealt with through temporary infrastructures and employment techniques to the maximum extent possible.

The use of mobile and/or modular structures should be considered for temporary impacts relating to schools, library, health care, housing, law enforcement, day care facilities, recreation and general governmental services.

Employment techniques for temporary impacts that Rangely can utilize:

- Training teachers for other school districts by developing one-year to three-year teacher internship programs.
- Develop three-year cadet law training programs to train law enforcement personnel for eventual assignment in urban or other rural areas.
- Bring part-time, volunteer retired or semi-retired personnel into service in health care, library, education, day care, etc.
- Invite other colleges to use Rangely as a learning experience during this three-year peak, with their students working in internship types of programs.

In order to mobilize for this temporary influx of people, a Federal/state program could be designed and administered by the Executive Office of the President. It might operate like the National Disaster Program, with the Governor of the state requesting special relief funds of the President. The President then acts to put money specifically into the community. After the impact, the

Federal government could reclaim the temporary buildings, trailers, etc., to use in another energy related impact area or in a natural disaster area. Special priority should be given to this problem on a statewide and nationwide basis. The Federal government uses a similar type of program when it builds its own projects, moving in equipment, setting it up, completing the project, then withdrawing.

RESPONSIBILITY: Federal and state governments, citizens, the town of Rangely and RBOSP. These groups together should devise a plan of action as soon before development as possible.

COST: Variable with the situation.

5. Mitigation 3 - By selective recruiting, RBOSP should seek to convert temporary construction workers to permanent employees. The more this can be accomplished, the less the need for additional newcomers, and the greater the community stability.

RESPONSIBILITY: RBOSP

COST: No additional cost

C. Non-Construction of Rangely Access Road to Tract C-a - The lack of a highway between Rangely and Tract C-a will result in a dispersal of population which will be non-directed. The state will lose a major opportunity to control and channel growth.

1. Favorable Effects

- State keeps oil shale trust fund impact money
- Although not contemplated in the trust fund legislation, money could be used for other impacted areas

2. Potential Adverse Effects

- Temporary construction workers, permanent primary and secondary workers, and all families will be dispersed throughout the area with major population impacts going to Rifle and Meeker. There are no plans or programs to mitigate negative social impacts of this broad scale dispersal.
- The random nature of this population dispersal will make it almost impossible to plan for positive impact. The tendency in such a situation is to allow people to settle and then build remedial social welfare programs to solve resulting problems.
- Rangely will be impacted primarily by the spillover settlers from the U-a and U-b oil shale tracts and other Utah development. Utah has acknowledged its desire to keep its population in Utah, but this leaves Rangely in the vulnerable position of taking overflow population, a situation that could easily turn Rangely into a bedroom town. Without a predictable population base increase, Rangely will lose its potential for having a positive, preventive program of social impact planning and growth management.
- The opportunity to use and expand the Colorado Northwestern Community College as an asset to the area in energy development will be minimal.
- All mitigations discussed in the recruitment and training section under "B-Addition of Temporary Residents", will be impossible to develop at reasonable costs.
- Additional cost in employee time, road use, gas consumption, and loss of sense of community will all add to the negative problems that will be created by this unplanned dispersal of population.
- People in the Uinta basin area remember the 44-year struggle to establish the Douglas Pass Road. The opposition to the road from Rangely to Tract C-a would be seen as a demonstration of the same state neglect.

3. Mitigation 1 - The town of Rangely, county, state and Federal agencies, and RBOSP should cooperate to accomplish construction of the road. The possible

negative aspects of building the road, such as the fear of building a "road to nowhere" must be weighed against the tax and human cost of not building the road.

RESPONSIBILITY: The state should establish an analysis group, composed of town, county, Federal and RBOSP representatives, that can arrive at actual long-term costs and benefits in evaluating the social and economic impact resulting from not building the road. This factual baseline will provide the data for overcoming any political and emotional arguments concerning the road.

COST: No additional cost

4. Mitigation 2 - The State Legislature should consider a social and economic impact planning program that will treat the areas of Meeker and Rifle in the same preventive manner with which Rangely has been treated.

This alternative plan should be started immediately on a regional scale and could be modeled after RBOSP's action planning concept. The responsibility for the public peace, health and safety of the people in this area is of paramount importance to the local people as well as to the State of Colorado.

RESPONSIBILITY: State Legislature and Executive Branch should address this problem. RBOSP will supply all information and methods used for Rangely.

COST: The cost for developing a social and economic planning program, based on RBOSP's cost in Rangely, is estimated to be in the area of $300,000. RBOSP has accepted the cost of the Rangely study as its responsibility in dealing with local social and economic impact. Because of the multi-jurisdictional complications, the Meeker-Rifle study should be the responsibility of a governmental entity.

D. Early Abandonment - Premature termination of the project for any reason will result in dislocations, both social and economic, which need to be planned for.

1. Favorable Effects

- Current community of Rangely will have benefited because of RBOSP's activities in encouraging citizen participation in community development.
- Rangely Master Plan is still available as a growth management tool.

2. Potential Adverse Effects

- Loss of jobs for a large segment of the population
- Loss of substantial economic base
- Loss of substantial tax base
- Interruption of the community's positive management of growth
- Increase in negative life qualities as disorganization of the community sets in with loss of economic base

3. Mitigation 1 - The RBOSP, state and Federal governments could develop a plan for mitigating impacts caused by early abandonment. The current Rangely Master Plan and FUND's community organization efforts are designed to prevent overindebtedness resulting from overreacting to any phase of oil shale development. An abandonment program could include attention to industrial diversification, inducement to other industry to come to Rangely, resettlement programs that include retraining for the labor force, and city debt reduction to minimize financial burden on the people who remain. This program could be developed in increments with alternatives for action.

RESPONSIBILITY: RBOSP would help the citizens develop a program for handling RBOSP withdrawal. Federal, state, regional and local governments will be responsible for coordinating action to relieve pressures created by early abandonment and to help implement alternative plans set forth in the above program.

COST: Unestimated.

4. Mitigation 2 - The local citizens and governments should identify and enact sufficient "circuit breaking" devices that will minimize the social and economic risk at any time. An example of a "circuit breaking" device is for town, county and state agencies to write construction contracts that allow cancellation with as little financial penalty as possible, or tie execution of the contract to availability of funds.

RESPONSIBILITY: The local community with technical assistance should develop these "circuit breaking" devices.

COST: $5,000 in technical assistance.

5. Mitigation 3 - The best mitigation for the early abandonment situation is to have a public policy from this time forward that ensures economic diversification. This can be supported by an ongoing training program that continues to help local citizens develop multiple skills to broaden their employment options.

RESPONSIBILITY: The Colorado Northwestern Community College should give leadership in providing practical vocational and technical training to support the diversification effort. COG, Rio Blanco county and, particularly, Rangely have a responsibility to continually seek sufficient economic diversification to ensure a balanced economic base.

COST: Unestimated.

6. Mitigation 4 - The Federal government should devise a means of guaranteeing county or city bond issues in heavily-impacted energy-producing areas.

RESPONSIBILITY: Federal government, through Congress

COST: Unestimated

E. Land and Housing Speculation - The earliest possible solution to minimize speculation in land housing would greatly enhance the stability of the community.

1. Favorable Effects

- None perceived

2. Potential Adverse Effects

- Speculation creates inflationary spiral that raises the cost of living but not the quality of life.
- A few promoters benefit at the expense of the existing population and the newcomers.
- Property taxes, as a percentage of housing value, also rise. New infrastructure costs may add indirectly to this increase in property taxes, working a hardship on fixed income people.
- Rapid inflation creates a potential for a "boom" situation requiring increase of police, probation workers and welfare workers necessary to keep the system running.

3. Mitigation 1 - An extensive amount of land that will be needed for community expansion is under control of the Bureau of Land Management. The percentage of land under current speculation is small and in all probability, the degree of escalation will be based on the eventual price of developed BLM lands. There are two major alternatives for Rangely to consider in managing lands acquired from the BLM. They include the establishment of an independent non-profit Community Development Corporation or the creation of a Public Housing Authority.

RESPONSIBILITY: The BLM requires legislation from Congress in order to turn public lands over to communities for residential expansion. The state and its Congressional delegation should actively support this legislation. Colorado should enact legislation permitting towns and cities to use land obtained from the Federal government for residential expansion.

COST: Land sales by the town to the private sector can generate revenue to pay for city improvements.

F. Moving Construction Materials - Large volumes of construction equipment and materials will be shipped to Rifle, the nearest railhead to Tract C-a. It will be necessary to transfer the material to trucks for delivery to the tract. A staging and storage area will be required adjacent to the railroad siding.

1. Favorable Effects

- No additional railroads needed
- No railroad construction impact imposed on other communities

2. Potential Adverse Effects

- Negative visual impact of a large storage/staging area
- Increased noise level in town from truck traffic
- Congestion of normal traffic routes
- Disruption of normal physical interaction patterns

3. Mitigation 1 - Supplies and materials must be unloaded in a reasonable manner so as not to congest the physical area around the entrance to Rifle. A siding will be designed beyond Rifle where unloading, storage, and handling of materials will be well contained.

RESPONSIBILITY: RBOSP

COST: Company operating cost.

4. Mitigation 2 - To avoid a negative impact on Rifle, a by-pass of Rifle should be constructed so that downtown and residential sections of Rifle feel no adverse effects from the heavy trucking.

RESPONSIBILITY: Highway construction is a governmental function. The state or Garfield county should seek money from the oil shale trust fund for this purpose. COG and Rifle should support the effort.

COST:

- Option 1: The Colorado Department of Highways is preparing an EIS on five alternative by-pass routes. Completion of the report is expected by April 1, 1976. The City of Rifle has been involved in selecting alternative by-pass corridors. Estimates for the five routes range from $1,176,000 to $4,300,500. There is no money for this purpose in the State Highway budget, so alternative funds will be needed.

G. Stresses on Existing Health Facilities - Significant population growth will overload the hospital and other health facilities and service capability.

1. Favorable Effects

- Opportunity for employment of doctors, nurses and other health-related personnel
- Opportunity to train local people for health professions

2. Potential Adverse Effects

- Overload on the existing health services system will force people to defer medical care or seek high cost care in other towns
- People will become critical of health care
- Some persons will not receive any care
- Care tendered will be expensive
- Care will be more remedial-oriented rather than preventive-oriented

3. Mitigation 1 - Development of health care delivery program by the private sector to meet increasing needs.

RESPONSIBILITY: Hospital board and administrators, and other health professionals.

COST: Covered by fees for services and billing to health insurance. Gulf and Standard both have existing medical plans for their employees. The company and employees both contribute to this plan. Such plans cover various health services and include major medical features. Such a plan for employees of the project will probably be adopted.

4. Mitigation 2 - Development of a non-profit preventive health care delivery system.

RESPONSIBILITY: Citizens, hospital administrators, interest groups, hospital board, and other health professionals.

COST: Covered by selling its own health insurance.

H. Settlement-Assistance Program - An active settlement-assistance program primarily staffed by local volunteers will enable new residents to be assimilated into the community with a minimum of difficulty.

1. Favorable Effects

- New arrivals to Rangely would be immediately contacted and survival needs taken care of through a self-help process. Places to stay, care for children, securing work, and health care are some of these survival needs.
- New arrivals have the opportunity to become acquainted with the cultural, social, historical and geographic nature of Rangely.
- Participation in relevant community activities is arranged so the newcomer overcomes his stranger status.
- Self-help programs would be available to unemployed women which would present the options of more schooling, entry-level training for various types of locally-available jobs and other human service training.
- Children could be integrated into the public schools through a one-to-one participatory buddy system.
- Financial resources could be made available on a short-term basis for survival needs.
- Recreational options of the local area could be presented to the newcomer.
- Availability and value of training programs could be explained.
- Overall full-scale involvement of the newcomer into Rangely will reduce the negative impact of strangers into town.

2. Potential Adverse Effects

- None

3. Mitigation 1 - Creation of a citizen-organized settlement program designed around neighborhoods. Possible design might allow for one paid neighborhood representative for each geographic neighborhood, although a completely non-paid volunteer program is also possible. One representative is added for each 500 population increase. Neighborhood representatives act as expeditors, teaching newcomers how to settle and teaching settled people how to assist the newcomer.

Trained settlement workers may work with housing and community development concepts, health co-ops, transportation co-ops, etc. All original settlement workers should be hired and trained from the Rangely population.

RESPONSIBILITY: Town of Rangely.

COST: $10,000 per year for start-up. Once initial newcomer impact is over, the settlement program can be absorbed by citizen participation.

CHAPTER 5

RECOMMENDATIONS FOR PUBLIC POLICY CONCERNING COMMUNITY DEVELOPMENT IN NORTHWEST COLORADO

CHAPTER 5
RECOMMENDATIONS FOR PUBLIC POLICY CONCERNING COMMUNITY DEVELOPMENT IN NORTHWEST COLORADO

RBOSP has been concerned with site specific community development efforts while acknowledging and incorporating a regional approach into its decision making. This acknowledgment of a regional concern can especially be seen in attention to:

- Recruitment and training of manpower.
- Development of a strong Rangely to provide an alternative to undue concentration of energy impact on the Meeker-Craig and Rifle areas.
- Developing programs that provide options for youth to stay in the area.
- Development of roads that support healthy community life (Rangely-Tract C-a road) and preserve the integrity of existing towns (Rifle By-pass).
- Implementation of total social and economic impact mitigation program in harmony with other regional issues.

Many of the concepts that underlie the mitigations discussed in Chapter 4 can be expanded and used as a format for a regional program.

It is recognized that coal development is preceding the production of oil from oil shale in this northwest region. The coal fields of Routt and Moffat counties have the potential for another Rock Springs result for northwest Colorado. Even now, Craig and Hayden are under increasing social impact. Understanding the indirect effects being felt in Steamboat Springs and Glenwood Springs is also important to consider in a regional program.

It is apparent that Meeker will be affected by the coal mines only thirty to forty miles north at Axial. RBOSP's attempt to aim its growth impact to

Rangely will minimize its impact on Meeker. Meeker can then concentrate on the growth of the coal and thermal-electric power plants to the north and east. Additionally, developing Rangely as the growth center for Tract C-a helps make it an integral part of Colorado. This will benefit the Rangely citizen, the county, northwest Colorado and the State.

By defining the potential impacts of RBOSP's development, it has become clear that a program to manage energy-related developments should be developed on a regional scale. It is recommended that the State of Colorado lead in addressing the energy development problems of northwest Colorado as an integral unit. A program for regional growth management is suggested below:

- Concepts outlined in this document should be adapted for use on the regional scale. Such management concepts include: time sequencing of construction needs, coordinating recruitment and hiring regionally, support for educational, training and retraining programs, regionally integrated preventive health care delivery systems, temporary support teams and facilities that can serve an area at peak impact times and move out when no longer needed.
- Special emphasis should also be placed on developing a recruitment and settlement program that would use local human resources whenever possible, minimize temporary workers, and expedite permanent settlement of newcomers.
- New legislation at state and Federal levels should be considered to enable implementation of programs dealing with temporary but potentially destructive impacts. Earlier in this document a program is described, patterned after the National Disaster Relief Program, to deal with this issue.
- A region-wide monitoring program should be developed to coordinate this regional energy development management process. The monitoring program should focus on a "preventive-early warning system" which would spot potentially destructive impacts and mobilize the proper responsible parties and resources to intercept or mitigate such impact. The monitoring program should ensure that construction schedules, manpower projections and community development needs of

energy companies, power generating companies and resultant secondary employers are constantly updated so that proper phasing and program development can take place.

- An early abandonment program should be developed to prepare for and respond to negative social impacts that result from the termination of an energy project. Technical assistance, job retraining, resettlement of people, etc. should all be planned in specific detail to enable mobilization of the plan when needed.

No attempt is made in this document to develop a detailed regional growth management program. Specific programs should and can be developed with the proper state leadership. The State of Colorado has the ability and responsibility to guide an orderly development process for all energy development. The Rio Blanco Oil Shale Project, while bearing responsibilities for its own actions, is ready to share its experience with the state in such a regional cooperative program.

APPENDIX A
DETAILED DEVELOPMENT PLAN ABSTRACT

APPENDIX A

DETAILED DEVELOPMENT PLAN
ABSTRACT

DDP ABSTRACT

In 1969, the U.S. Department of the Interior initiated planning for a prototype oil shale leasing program that eventually resulted in Gulf Oil Corporation and Standard Oil Company (Indiana) acquiring an oil shale lease for Tract C-a in the Piceance Creek basin of northwest Colorado. Gulf and Standard submitted the high bonus bid for Tract C-a ($210,305,600) at a lease sale in Denver on January 8, 1974. Rio Blanco Oil Shale Project (RBOSP) an organization directed and staffed by representatives of Gulf and Standard, was formed later that year for the purpose of developing Tract C-a.

In the past two years, RBOSP has conducted extensive geotechnical and environmental data collection programs designed to establish baseline conditions on and around Tract C-a and to provide input to engineering studies leading to the selection of mining and processing plans for Tract C-a development. This 4-volume detailed development plan (DDP) describes the baseline conditions and RBOSP's proposed construction and operation of a commercial-scale oil shale complex and support facilities on and around Tract C-a. Three major requirements must be met before development operations on Tract C-a can begin:

- The Area Oil Shale Supervisor, U.S. Geological Survey, must approve the development plan.
- Key Federal and State actions must be fulfilled and permits issued.
- The proposed development described in this plan must be commercially feasible at the time investments are committed.

PROJECT DESCRIPTION

RBOSP's ultimate goal with respect to Tract C-a development is to engage in commercial production of shale oil and associated by-products at as high a production rate as is feasible, consistent with environmental, technical and economic constraints that now prevail or may exist in the future.

Development will consist of open pit mining, off-tract surface retorting, and off-tract disposal of processed shale and overburden, and will be undertaken in two operating phases, each preceded by three-year construction periods. Phase I operation will consist of two stages, wherein first one, then two retort modules will be operated. This modular approach will provide RBOSP the opportunity to gain operating experience, improve process efficiency and confirm capital and operating costs before a full-scale oil shale complex is built. Phase II will be the commercial-scale complex. Table 1 is a summary of information pertinent to RBOSP's proposed development of Tract C-a. Figure 1 depicts the location of proposed RBOSP facilities.

Phase I - Stage 1 operations will begin during 1979 with a small open pit mine and a single TOSCO II retort capable of processing 10,700 tons of oil shale per day to produce approximately 4,500 barrels of pipelineable shale oil daily. Phase I - Stage 1 will include a thermal cracking plant for lowering the viscosity and pourpoint of raw shale oil so that it can be transported by pipeline. A sulfur recovery unit will also be included.

TABLE 1

RIO BLANCO PROJECT SUMMARY

	PHASE I		
	Stage I	Stage 2	PHASE II
TIMING			
Construction	Apr. 1977-Aug. 1979	July 1980-Aug. 1982	Aug. 1982-Aug. 1985
Operation	Aug. 1979-Aug. 1982	Aug. 1982-Aug. 1985	Aug. 1985 and beyond
MINING			
Type	Open Pit	Open Pit	Open Pit
Ore Production	10,700 TPSD	21,400 TPSD	119,000 TPSD
Ore Haulage	Belt Conveyor	Belt Conveyor	Belt Conveyor
Overburden Haulage	Truck	Truck	Belt Conveyor
PROCESSING			
Retorting	TOSCO II	TOSCO II	Combination of TOSCO II & Gas Combustion/Paraho
Upgrading	Thermal Cracking	Thermal Cracking	Delayed Coking & Hydrotreating
Processed Shale Haulage	Truck	Truck	Belt Conveyor
PRODUCTS			
Pipelineable Shale Oil	4,500 BPSD	9,000 BPSD	-
Upgraded Shale Oil	-	-	55,800 BPSD
Sulfur	11 LTPSD	22 LTPSD	153 LTPSD
Ammonia (anhydrous)	-	-	232 TPSD
Coke	-	-	467 TPSD
Moisturized Processed Shale	11,000 TPSD	22,000 TPSD	118,500 TPSD
WATER DEMAND	1,390 AFY	2,370 AFY	10,000 AFY
POWER DEMAND	17.7 MW	28.8 MW	227 MW
PEAK EMPLOYMENT			
Construction	700	400	2,200
Operation	300	500	1,100

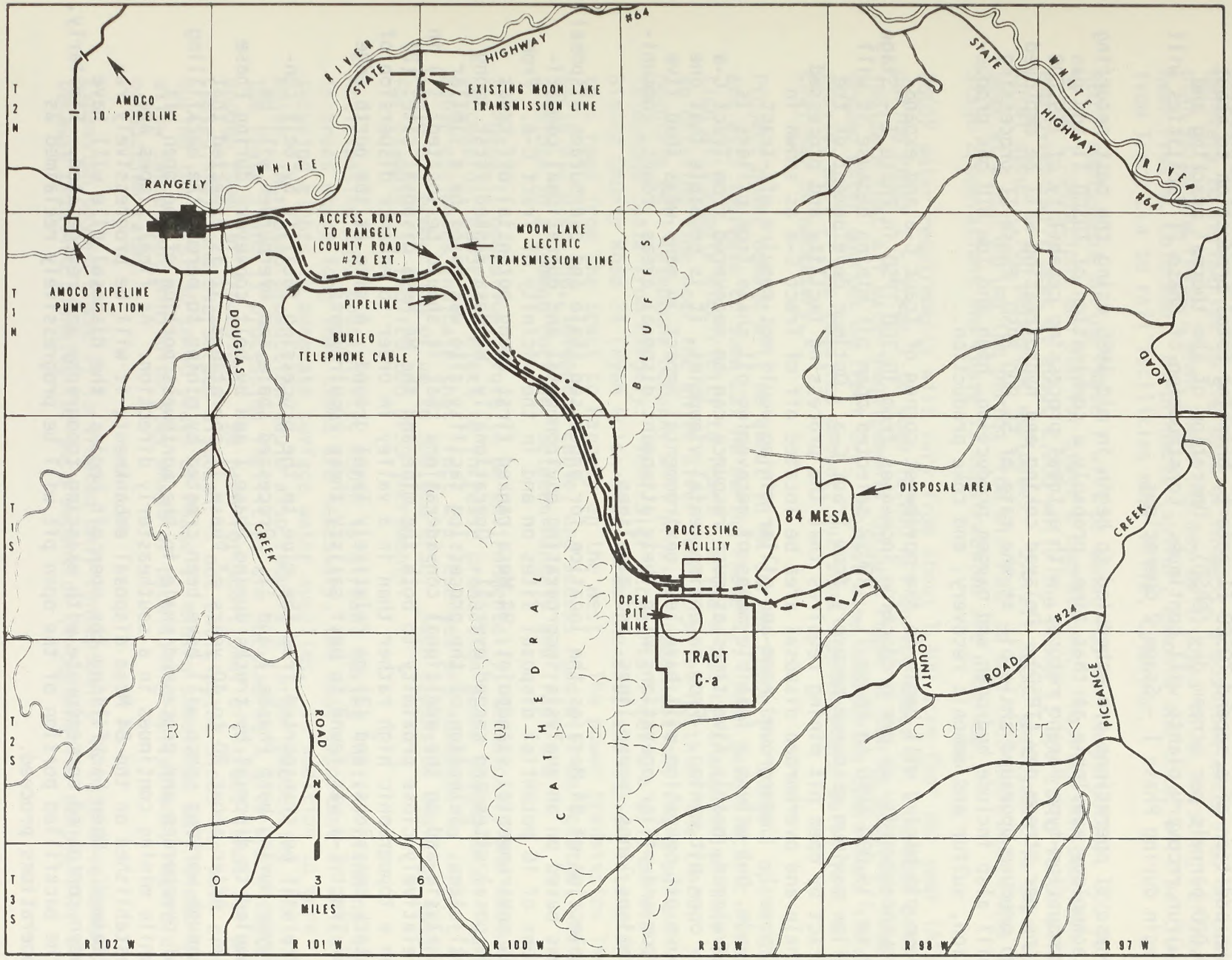


Figure 1

LOCATION OF PROPOSED RBOSP FACILITIES

Phase I - Stage 2 operations will begin three years later, during 1982, with the addition of a second TOSCO II retort, bringing total production to about 9,000 barrels per stream day (BPSD). Operation of the thermal cracking and sulfur recovery plants will continue. Construction of Phase II facilities will begin during Phase I - Stage 2 operations.

Phase II operations are scheduled to begin in mid-1985 using the best retorting technology available at that time, probably a combination of TOSCO II and gas combustion-type Paraho retorts, with a total processing capability of 119,000 tons per stream day (TPSD). Delayed coking and hydrotreating will be employed to produce upgraded shale oil at the rate of 55,800 BPSD. Phase II processing will also include hydrogen and oxygen production, high and low BTU gas production, sulfur and ammonia recovery, and coke production.

Open pit mining will begin in the northwest corner of Tract C-a and expand southeastwardly as ore production increases from 10,700 TPSD in Phase I - Stage 1 to 119,000 TPSD in Phase II. RBOSP selected open pit mining because it will allow maximum resource recovery from Tract C-a. Optimum development of the tract by open pit mining requires that the processing facility and processed shale and overburden disposal area be located off of Tract C-a as shown in Figure 1. Underground room-and-pillar mining would not require off-tract lands, but unless a feasible means of recovering oil shale from pillars is developed, nearly five times as much resource can be recovered from Tract C-a by open pit mining. From an environmental viewpoint, it is probable that one open pit operation will have less environmental impact in many ways than five room-and-pillar operations with their attendant disposal areas, roads, communications lines, power lines, and pipelines.

Selection of 84 Mesa as the location for processed shale and overburden disposal was based on an analysis incorporating environmental and operational comparisons of 16 potential disposal sites on and in the vicinity of Tract C-a. From an environmental standpoint, 84 Mesa ranked first among potential off-tract disposal sites and second overall. Operationally, 84 Mesa ranked first among all sites. Selection of the processing facility site was based on a similar analysis and on the additional considerations that it should be located: (1) in relatively close proximity to both the mine and the 84 Mesa disposal site; (2) on a topographic high rather than in a valley in order to enhance dispersion of stack emissions; and (3) on relatively level ground. A site at the north edge of Tract C-a was found to best satisfy these requirements.

Ore will be transported from the mine to the processing facility by belt conveyor during both Phases I and II. Processed shale and overburden will be hauled to disposal by trucks during Phase I and by belt conveyors during Phase II. After about 30 to 40 years of Phase II operations, it is expected that enough working space will have been created by mining to permit the backfilling of overburden and processed shale in the northwest portion of the open pit while mining continues in a southeasterly direction. As final slopes are established on the 84 Mesa disposal embankment, it will be progressively reclaimed. When backfilling the open pit begins, the disposal pile will have been contoured commensurate with existing topography and revegetated. Similarly, the backfilled portion of the open pit will be progressively reclaimed as operations proceed.

RBOSP's principal product (pipelineable shale oil in Phase I and upgraded shale oil in Phase II) will be transported by pipeline to Rangely, Colorado, thence through an existing AMOCO pipeline to other connecting carriers for ultimate delivery to refineries in the West or Midwest; a possible exception to this plan is during Phase I when shale oil may be trucked to an existing refinery near Fruita, Colorado. By-products (sulfur, ammonia and coke) will be trucked from Tract C-a to rail facilities near Rifle, Colorado.

RBOSP employment during Phase I will be about 700 for construction, 300 for Stage 1 operations and 500 for Stage 2 operations. Phase II construction employment will peak at about 2,200 while the Phase II operating force will total about 1,100 permanent employees. Overall RBOSP employment is expected to peak at 2,700 during the period from mid-1982 to mid-1985 when both Phase I - Stage 2 operations and Phase II construction are underway.

RBOSP water requirements will vary from about 1,400 acre-feet per year (AFY) during Phase I - Stage 1 to some 10,000 AFY during Phase II. Current data indicate that all water requirements through Phase II can be supplied from ground water sources on Tract C-a. Normal mine dewatering operations should provide most of the required amount, but some supplementary wells (all on Tract C-a) may be necessary.

Project power demand will be about 18 MW during Phase I - Stage 1 operations and will increase to some 227 MW during Phase II. Moon Lake Electric Association will supply electricity to Tract C-a via a 230-KV transmission line from an existing line near the White River some 20 miles north of the tract. Mountain Bell Telephone Company will provide communications via a buried telephone cable from Rangely. Vehicular access to Tract C-a will be via Rio Blanco County Road 24 (Ryan Gulch Road) from the east and via an extension of this road from the tract to Rangely on the west. The power tranmission line, shale oil pipeline, telephone cable, and access road will be located, wherever possible in a common corridor between Rangely and Tract C-a.

If Phase II operations prove to be environmentally, technically and economically successful, RBOSP may elect to increase production above 55,800 BPSD. Current RBOSP estimates indicate that Tract C-a reserves are adequate to support a shale oil production of up to 300,000 BPSD. Such expansion could be achieved, for example, in two-125,000 BPSD increments.

Anticipating this possibility, RBOSP is already taking initial planning steps in areas where long lead times are necessary, the most important of which is securing rights to adequate surface water supplies. In addition to more water, increased production would also require a larger processing facility -- the Phase I and II processing facilities are located at a site where there is enough room for expansion. The need for additional off-tract lands for processed shale and overburden disposal is not anticipated since the void created during the first 30 to 40 years of Phase II mining should be sufficient to allow subsequent mining to stay ahead of backfilling operations, regardless of production rates.

Expansion beyond Phase II is treated only conceptually in this development plan because detailed planning for such expansion (excepting the acquisition of

water rights) cannot begin until Phase II is underway. Ultimately, however, maximum recovery of resource from Tract C-a (and thus, maximum resource conservation) can only be realized by completely mining the tract. Furthermore, leaving exposed mining faces at the south and east boundaries of Tract C-a will permit future developers on adjacent leases to continue open pit mining where RBOSP operations end.

BASELINE ENVIRONMENTAL AND GEOTECHNICAL CONDITIONS

As noted earlier, RBOSP has initiated extensive geotechnical and environmental baseline data collection programs on and around Tract C-a. These programs are designed to obtain data needed for engineering studies and development plans as well as fulfilling specific lease requirements.

Geotechnical data collection is subdivided into geologic and hydrologic programs. The geologic program is designed to provide detailed topographic, structural, stratigraphic, and resource data. The hydrologic program will provide data for determining baseline hydrologic conditions, aquifer characteristics, and for predicting the quantity of water expected to be produced during open pit mining.

The baseline environmental program designed by RBOSP complies with lease stipulations and, in addition, reflects the following goals: (1) to identify any potential data gaps that might exist in the lease stipulations and develop programs to correct such oversights; and (2) to evaluate lease stipulations and, if appropriate, suggest amendments that would best serve the environmental spirit enunciated in the lease.

The baseline environmental program was approved by the Area Oil Shale Supervisor following review and recommendations by the Oil Shale Environmental Advisory Panel. The program includes data collection in the following disciplines: air quality, meteorology, terrestrial and aquatic ecology, soil characterization, archaeology, and paleontology. Data from all elements are combined to describe overall ecological interactions. Incorporated in the design of these programs is a flexibility allowing response to changes indicated by the constantly expanding data base, without altering original objectives. For example, the study area in some programs was expanded from the original design to ensure coverage of potential disposal and processing facility sites. In addition to characterizing the physical and biological components of the Tract C-a study area, both qualitatively and quantitatively, the baseline environmental program will yield data for designing a monitoring program to measure changes caused by development.

ENVIRONMENTAL PROTECTION

RBOSP has developed specific environmental protection procedures to ensure compliance with lease provisions and environmental stipulations, and with all applicable Federal, State and local environmental protection and pollution control regulations. These procedures, or mitigation plans, are designed specifically for RBOSP's intended development of Tract C-a and will be modified,

if necessary, as changing conditions are noted. The protection procedures described in this development plan cover the following topics:

Health and Safety	Fish and Wildlife Management
Air Quality Control	Land Rehabilitation
Water Quality Control	Oil and Hazardous Materials Control
Solid Waste Control	Fire Prevention and Control
Noise Control	Protection of Objects of Historic and Scientific Interest
Aesthetics	
Abandonment	

RBOSP has conducted an environmental assessment of proposed Tract C-a development. This assessment was based on the fact that the protection plans listed above will be implemented and that they will be modified as conditions dictate. The results of this assessment are that Tract C-a development alone will have slight, if any, impact on the functioning of the overall Piceance Creek basin ecosystem.

Various environmental monitoring programs will be conducted to provide a record of changes from conditions existing prior to development as established by the baseline data collection program, and to serve as a continuous check on compliance with lease provisions and applicable Federal, State and local environmental protection and pollution control regulations. Programs have been designed to monitor air quality, meteorology, hydrology, terrestrial and aquatic ecology, and revegetated areas. Analysis of data collected during the baseline program provides the basis for selecting those parameters that will most effectively indicate detrimental effects and, thus, the necessity for taking corrective action such as altering one of the environmental protection plans.

The monitoring programs will be initiated six months before development begins on Tract C-a. Monitoring will continue until the Area Oil Shale Supervisor determines to his satisfaction that environmental conditions consistent with Federal and State statutes and regulations have been established.

STATE AND FEDERAL ACTIONS NEEDED BEFORE RBOSP CAN PROCEED

A variety of state and Federal actions are necessary before RBOSP can implement development of Tract C-a as described in this document. Specific actions needed are as follow:

- Area Oil Shale Supervisor approval of the detailed development plan
- Bureau of Land Management issuance of right-of-way permits for
  - pipeline to Rangely
  - road to Rangely
  - power transmission line
  - telephone cable
- BLM approval of use of 84 Mesa for disposal area
- BLM approval of use of offsite lands for processing facility
- Townsite lands are made available to Rangely by the BLM
- State appropriation for and construction of access roads
- State legislation to enable a town to receive and administer townsite lands

- An acceptable land trade with State Division of Wildlife for surface lands on and around Tract C-a
- State reclassification of air quality designation for area on and around Tract C-a
- Issuance of all required State and Federal permits

APPENDIX B

HUMAN RESOURCE INVENTORY OF 10 COUNTIES IN NORTHWEST COLORADO

APPENDIX B

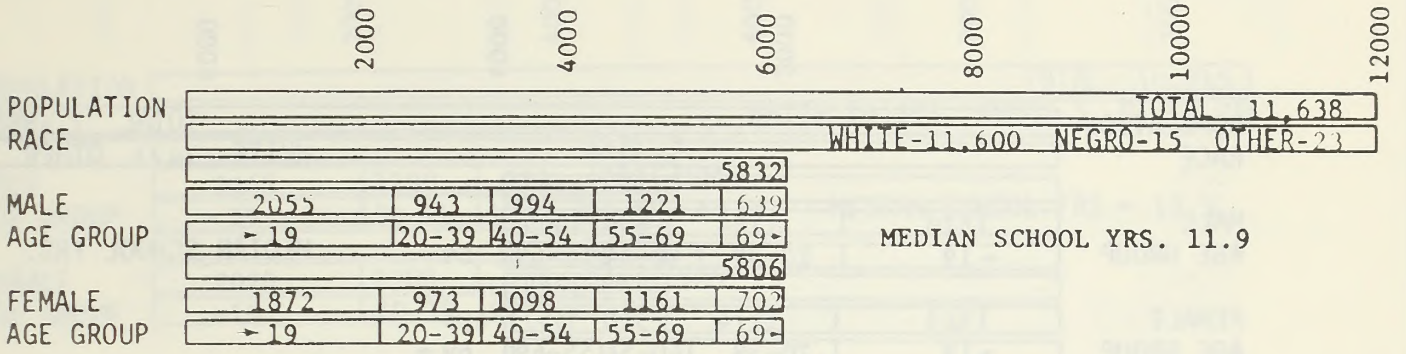
HUMAN RESOURCE INVENTORY

COLORADO COUNTIES OF:

Delta	Mesa
Eagle	Moffat
Garfield	Pitkin
Grand	Rio Blanco
Jackson	Routt

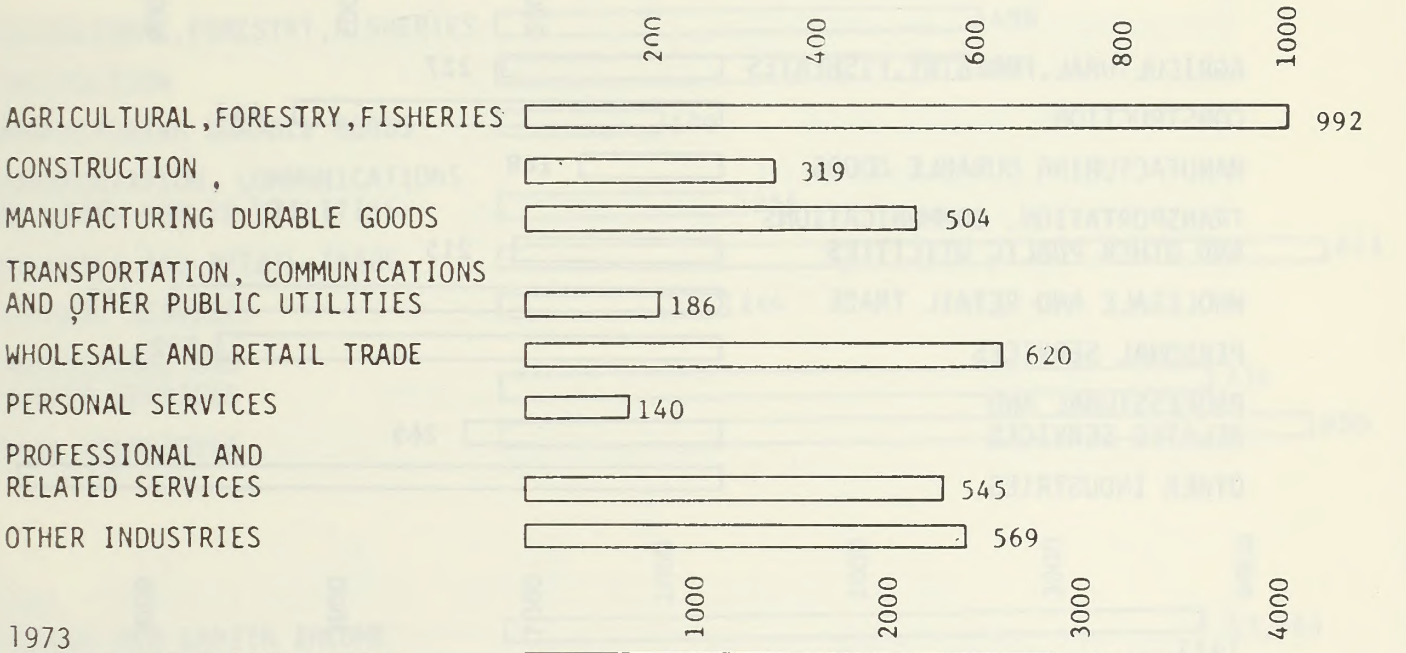
DELTA COUNTY

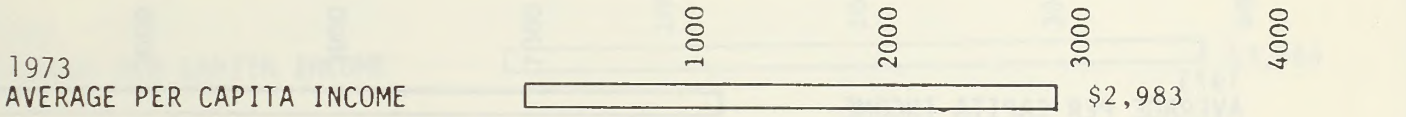
1970 CENSUS - RURAL FARM & NON-FARM

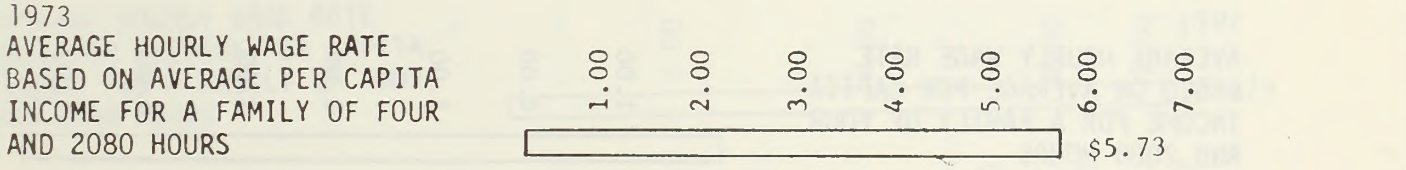


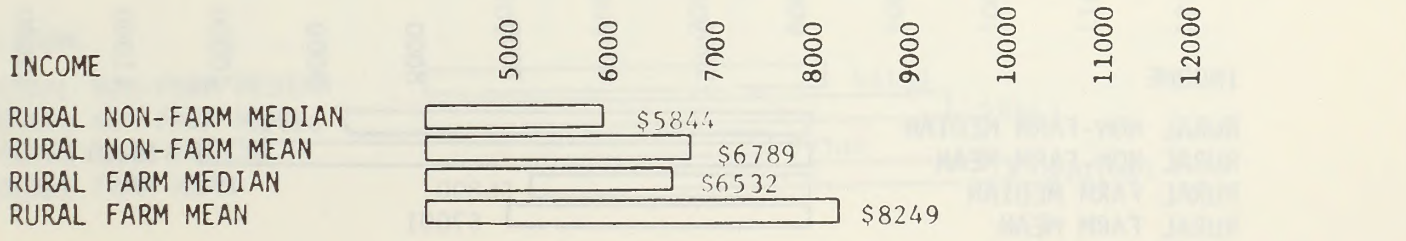
INDUSTRY

NO. EMPLOYED 16 YEARS OLD AND OVER = 3,875



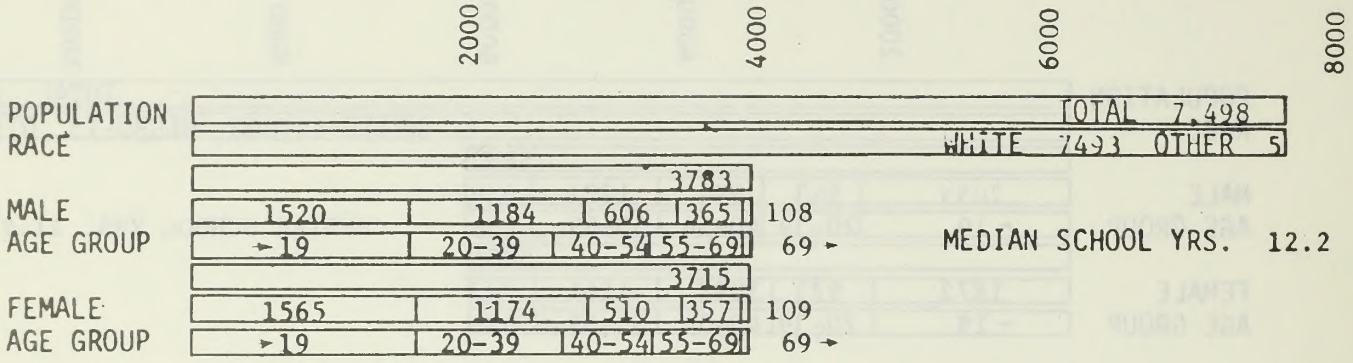




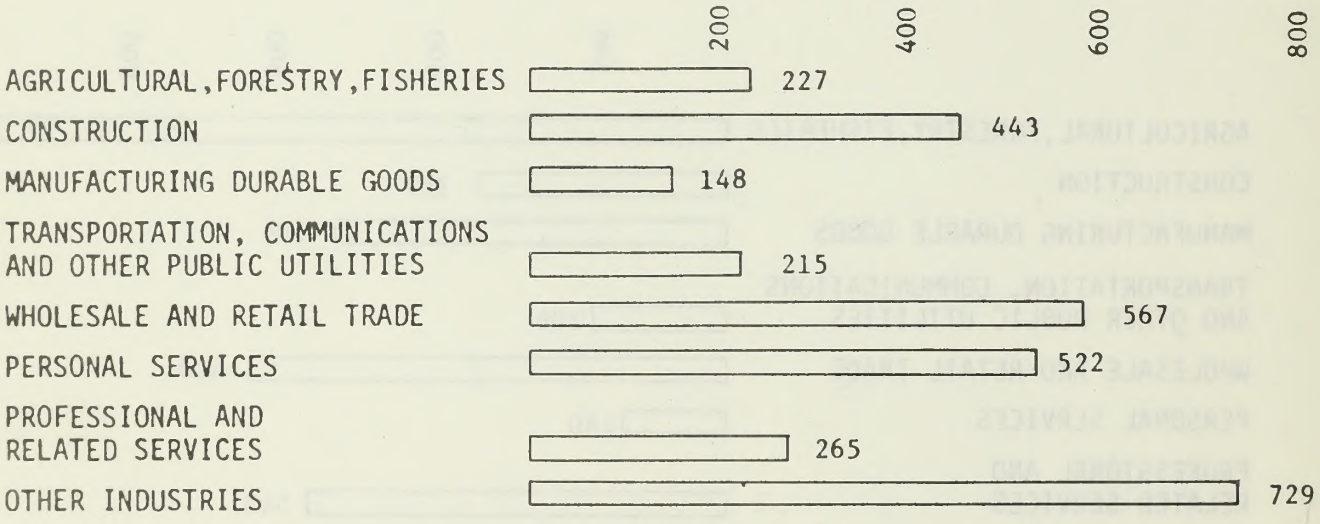


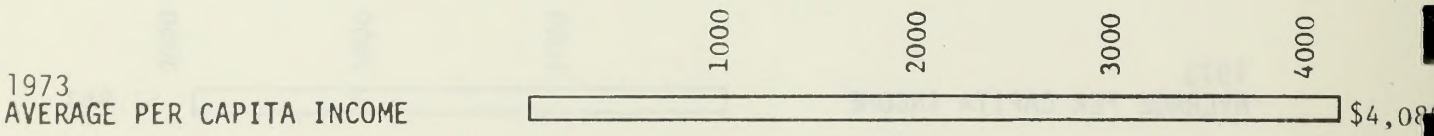
EAGLE COUNTY

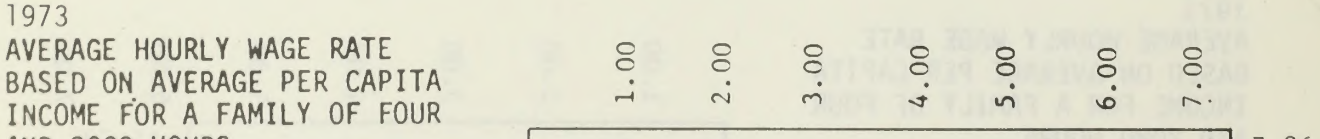
1970 CENSUS - RURAL FARM & NON-FARM

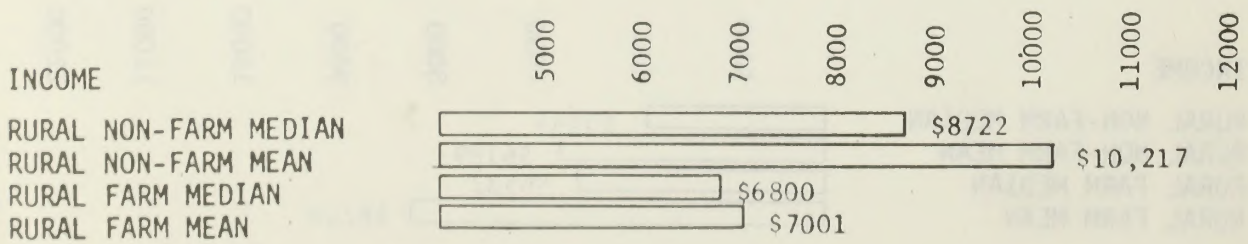


INDUSTRY — NO. EMPLOYED 16 YEARS OLD AND OVER = 3,116



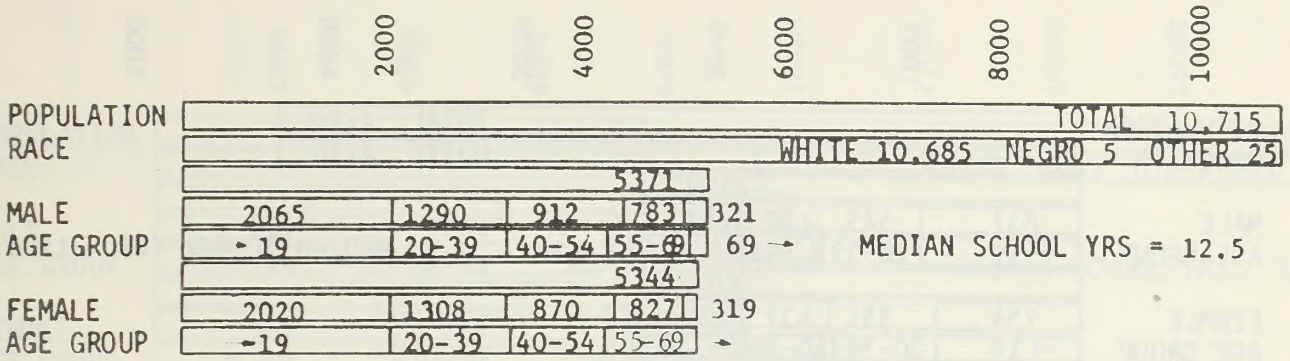


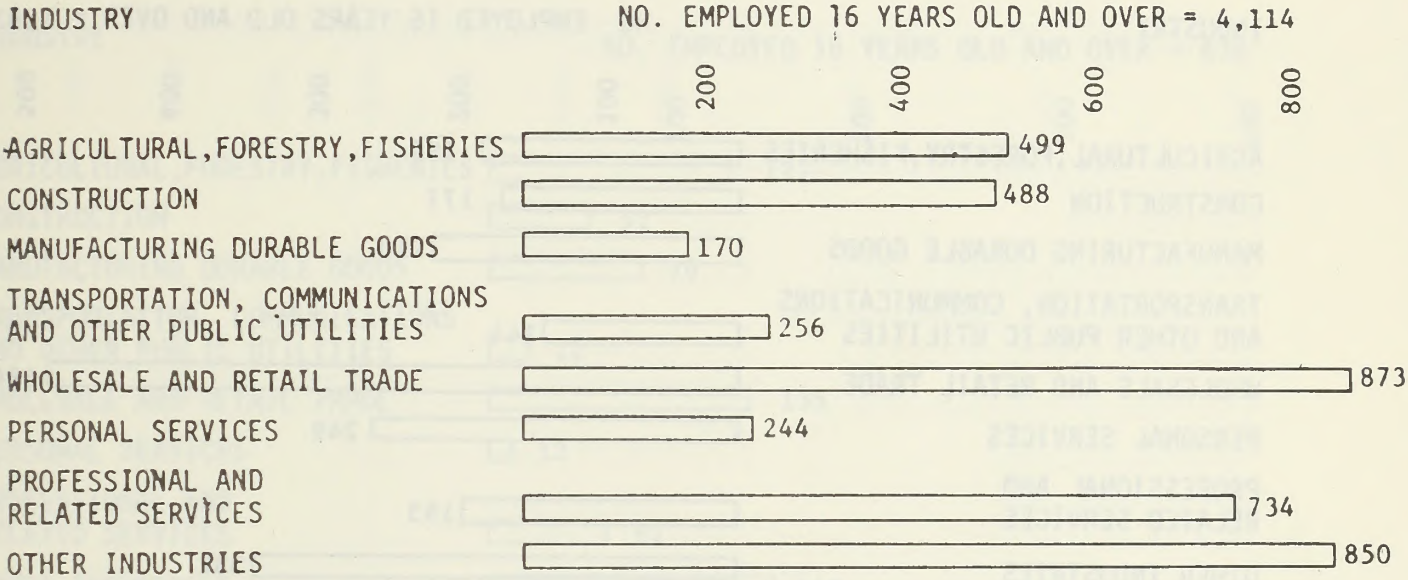


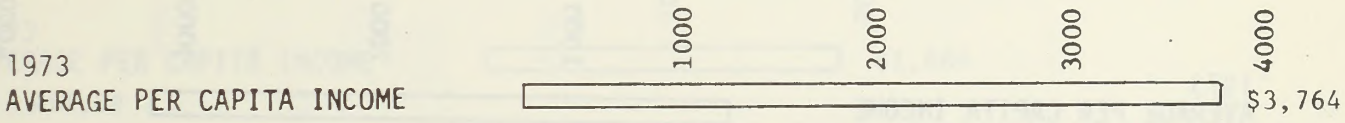


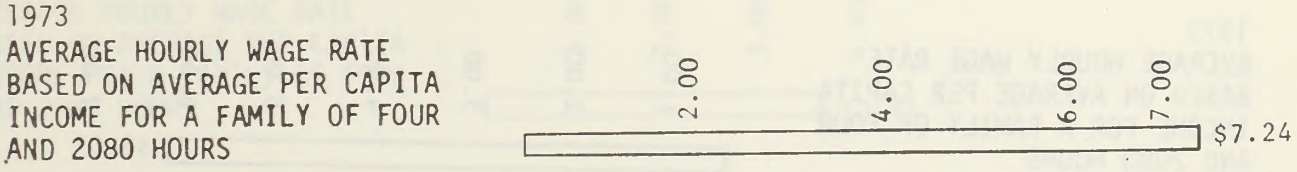
GARFIELD COUNTY

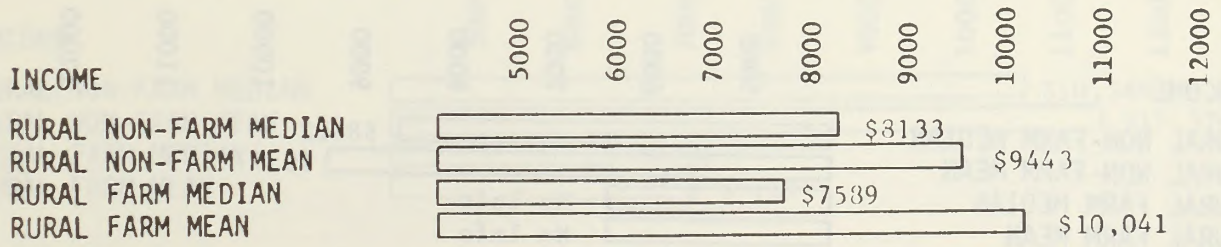
1970 CENSUS - RURAL FARM & NON-FARM





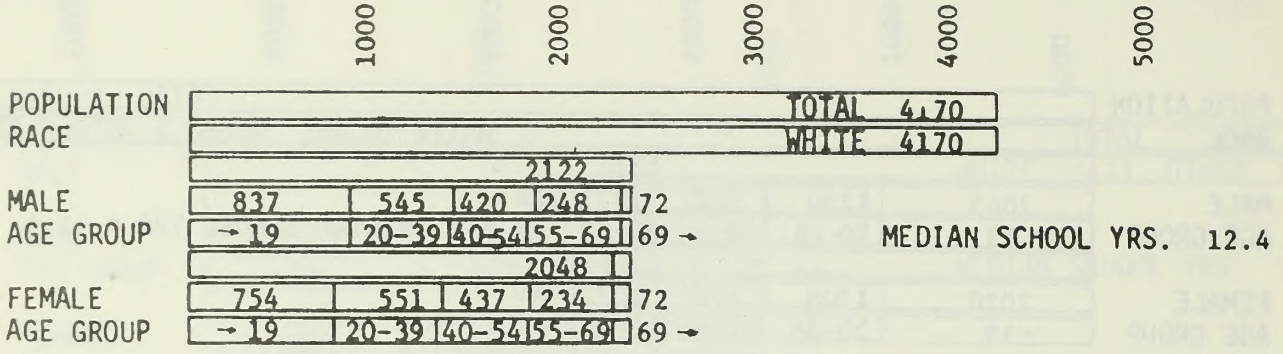


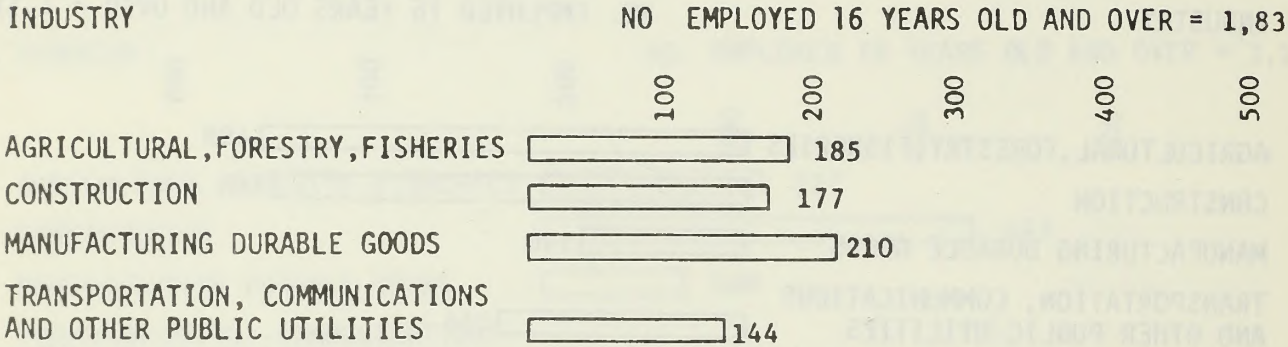


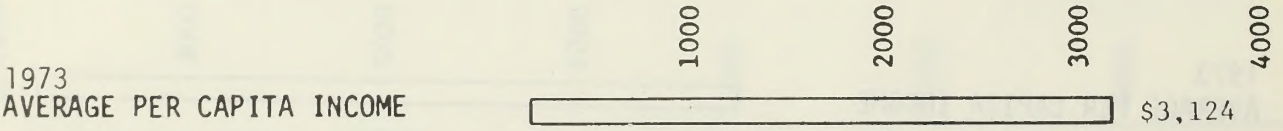


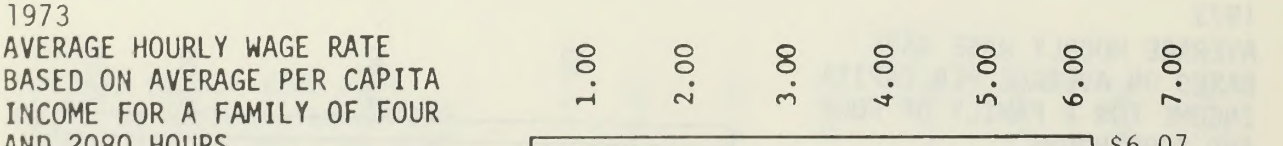
GRAND COUNTY

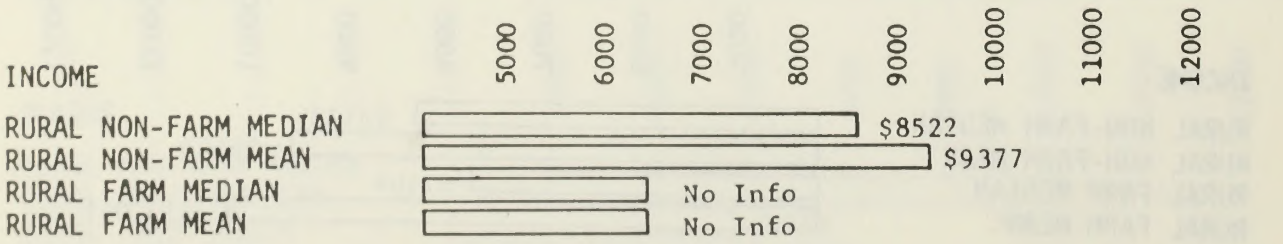
1970 CENSUS - RURAL FARM & NON-FARM





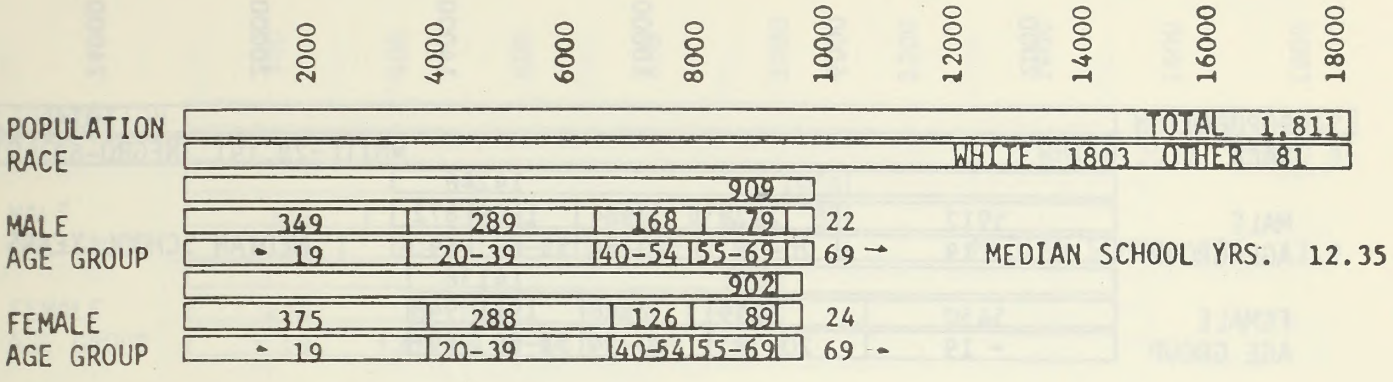


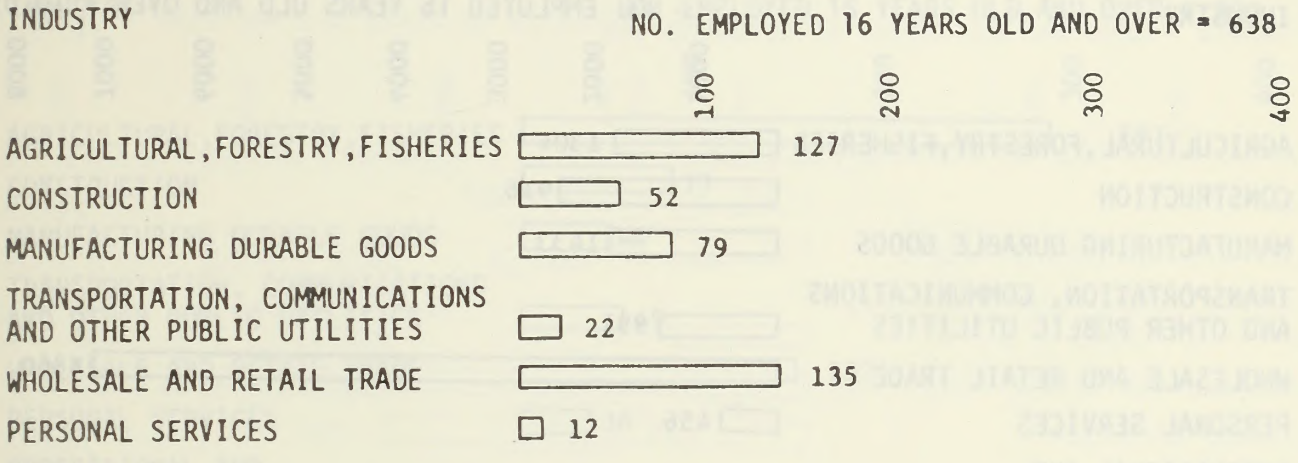


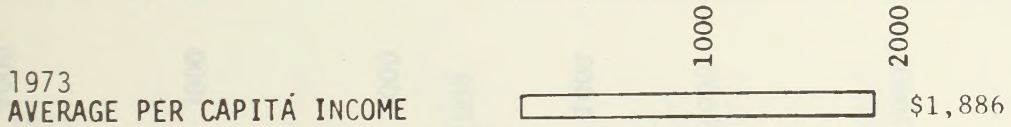


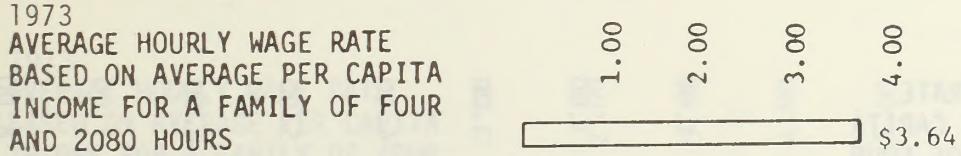
JACKSON COUNTY

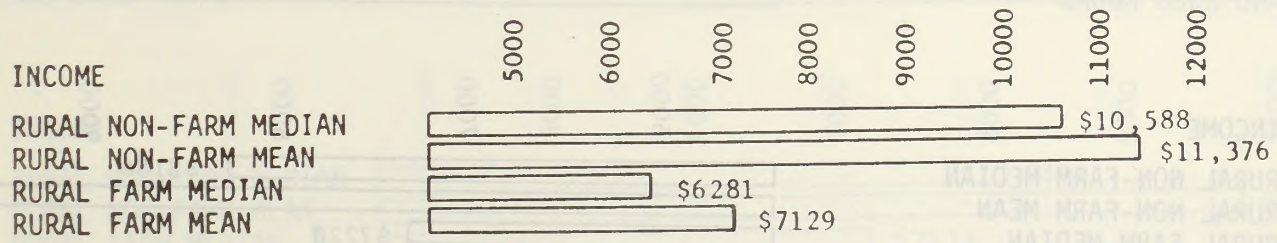
1970 CENSUS - RURAL FARM & NON - FARM





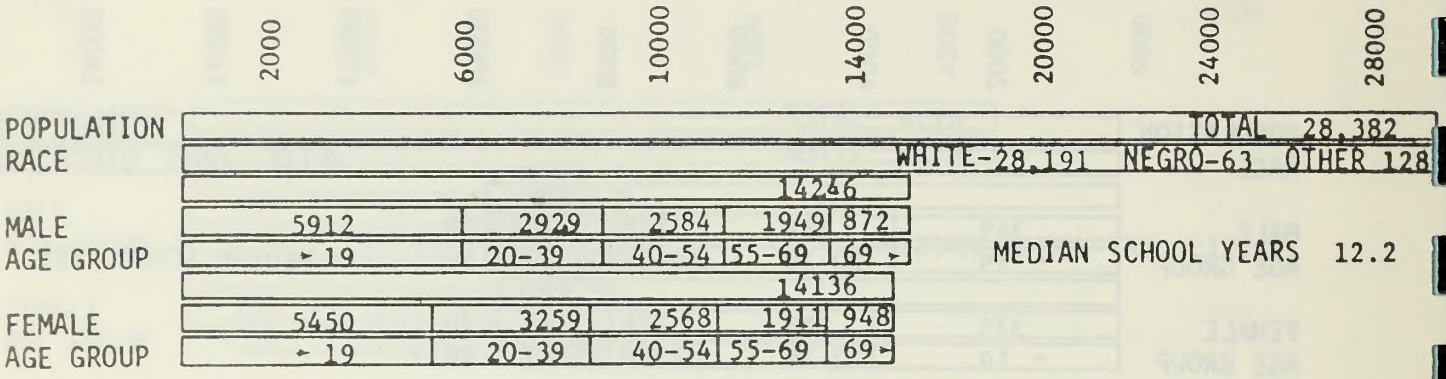


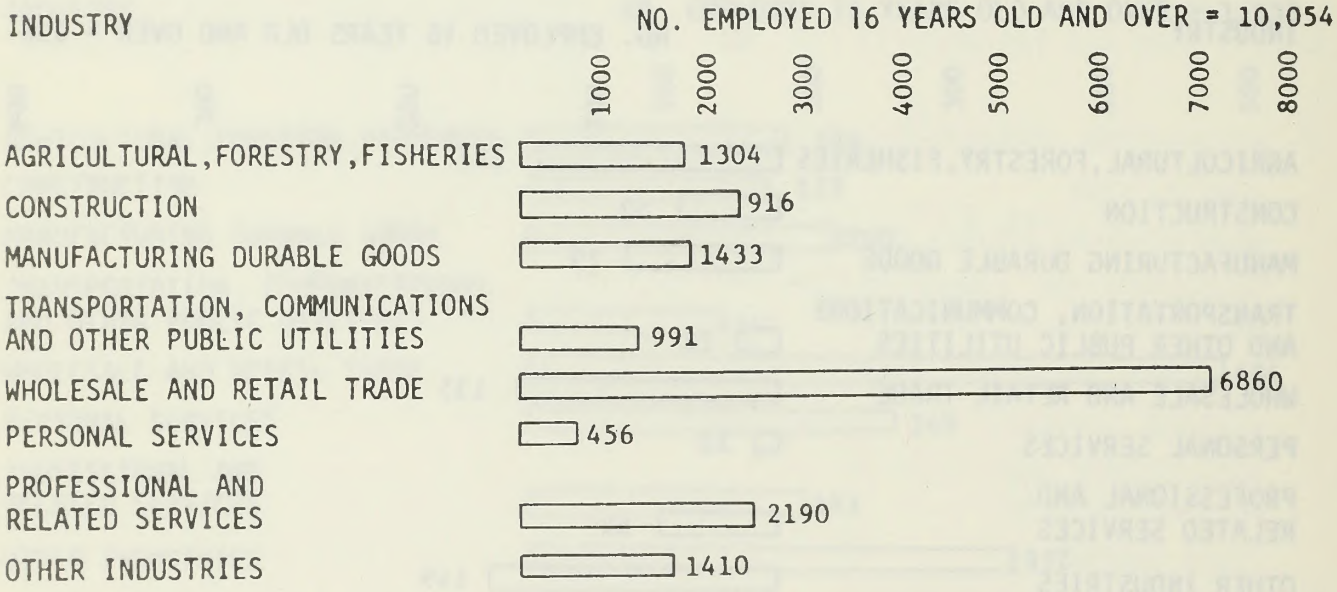


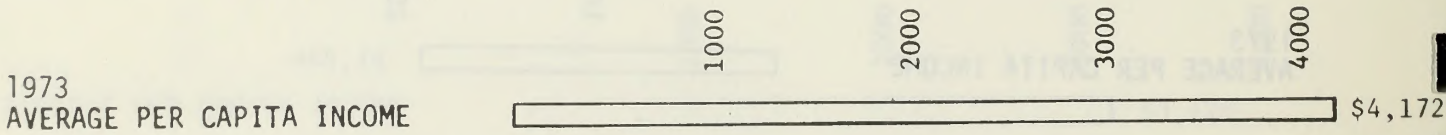


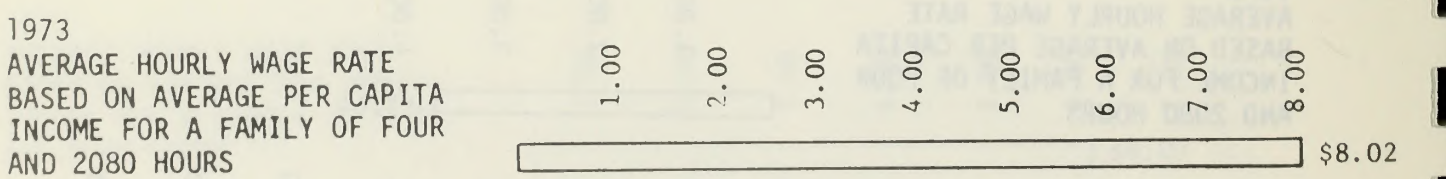
MESA COUNTY

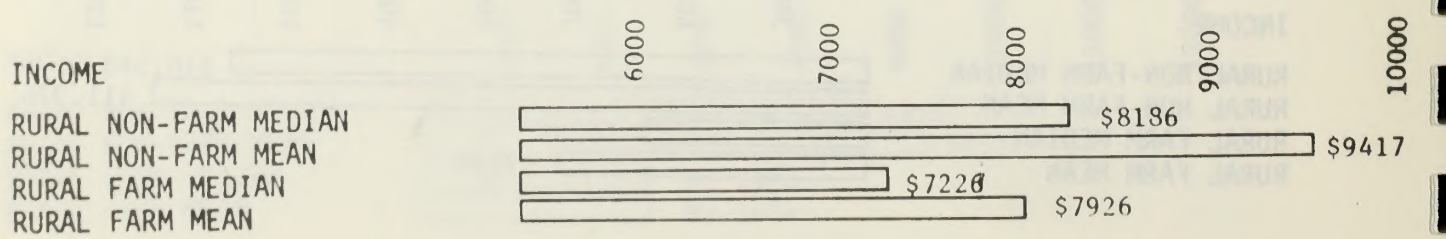
1970 CENSUS RURAL FARM & NON FARM





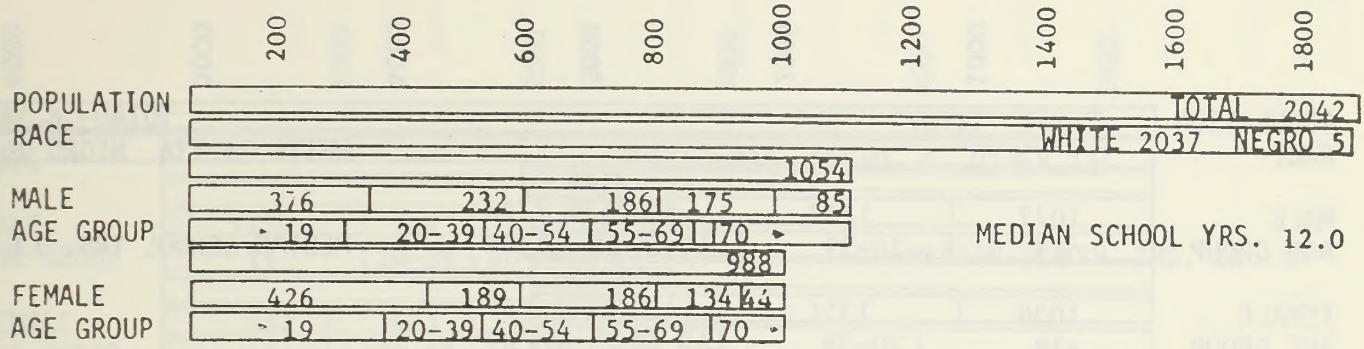






MOFFAT COUNTY

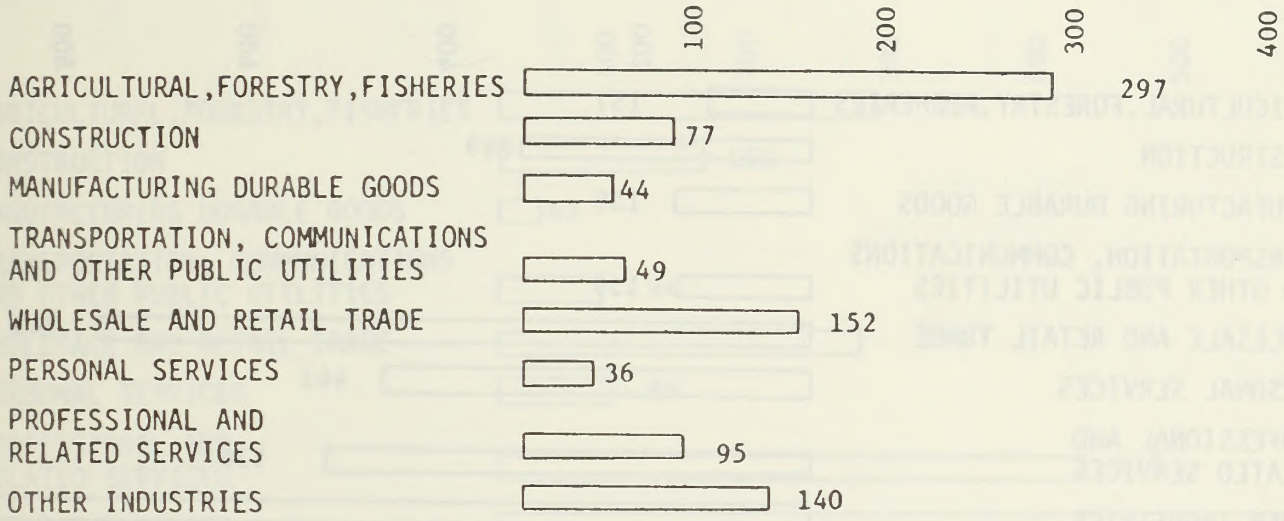
1970 CENSUS - RURAL FARM & NON-FARM

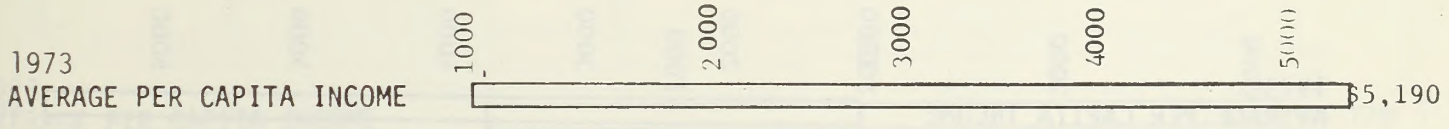


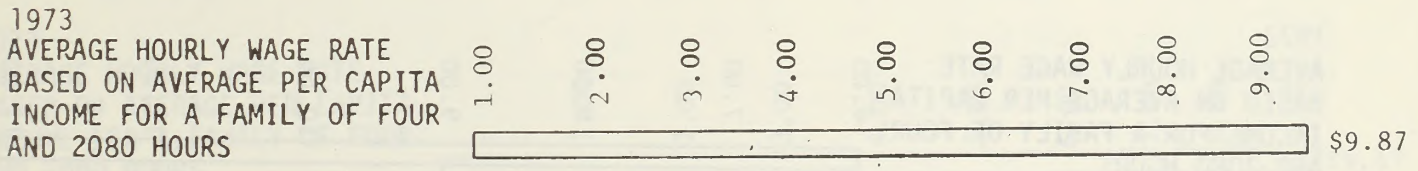
MEDIAN SCHOOL YRS. 12.0

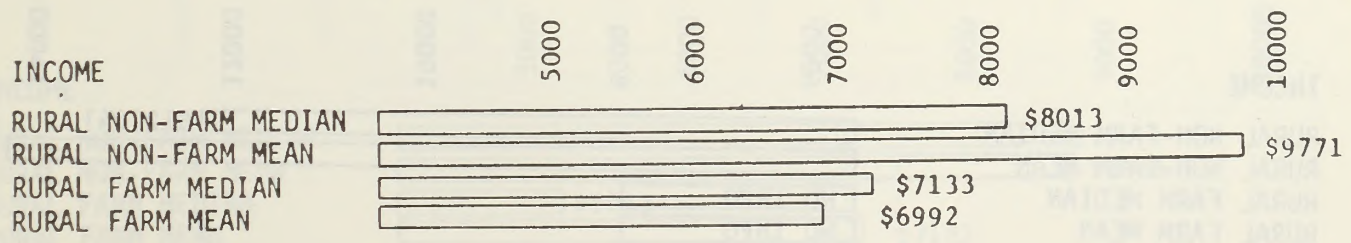
INDUSTRY

NO. EMPLOYED 16 YEARS OLD AND OVER = 890



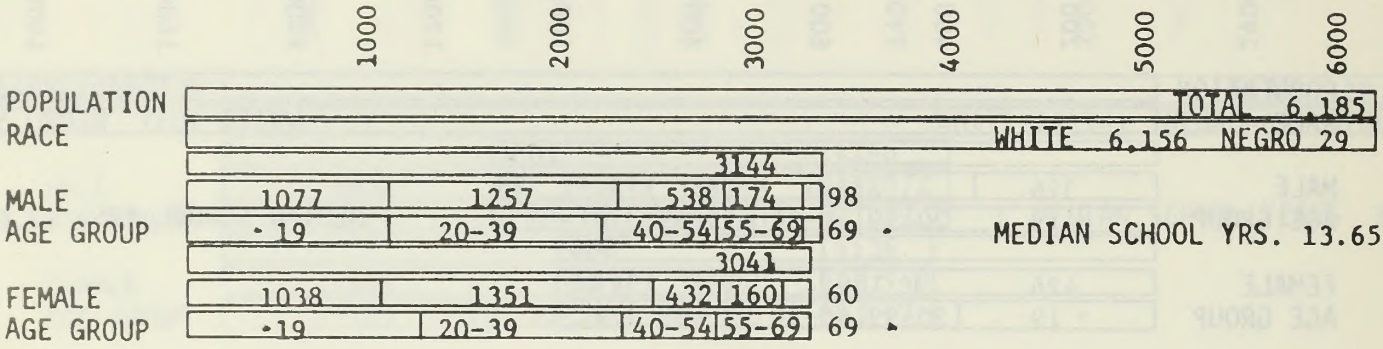


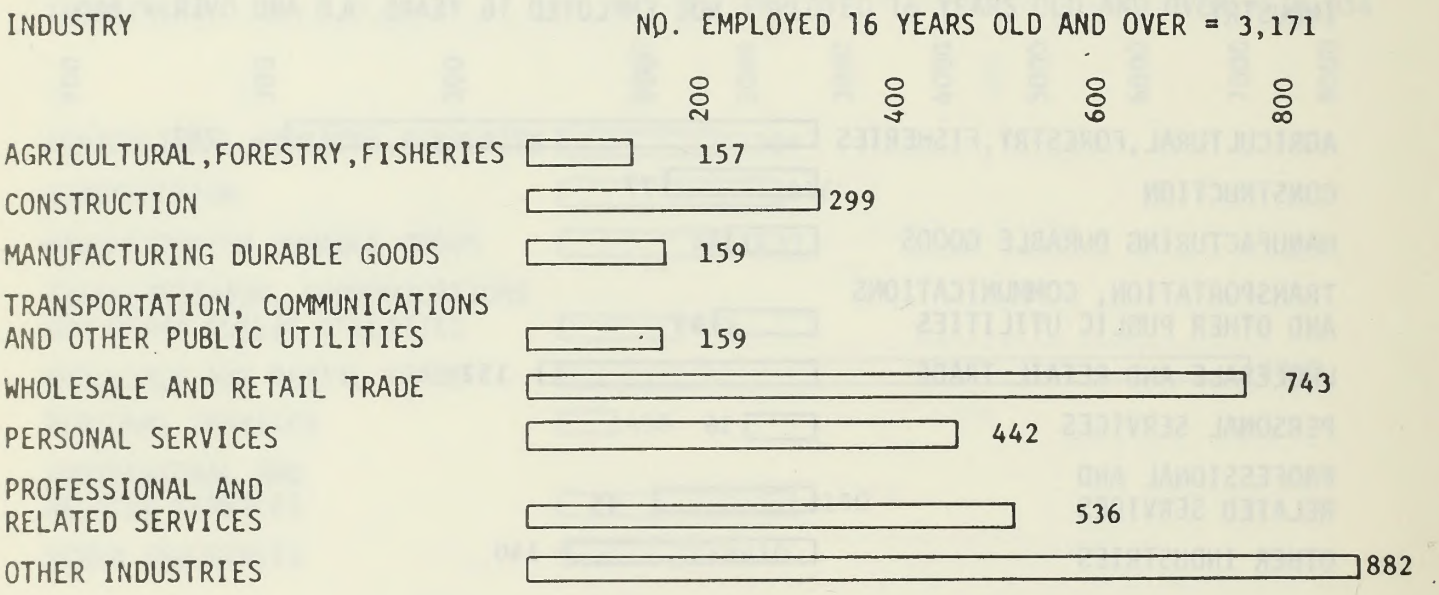


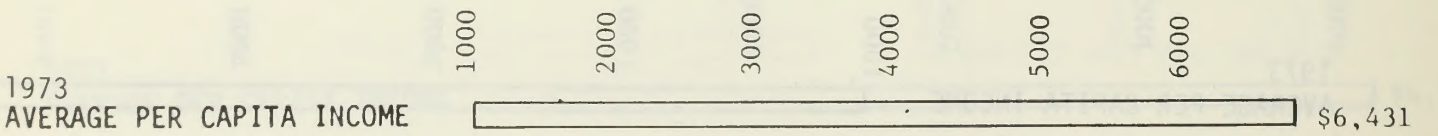


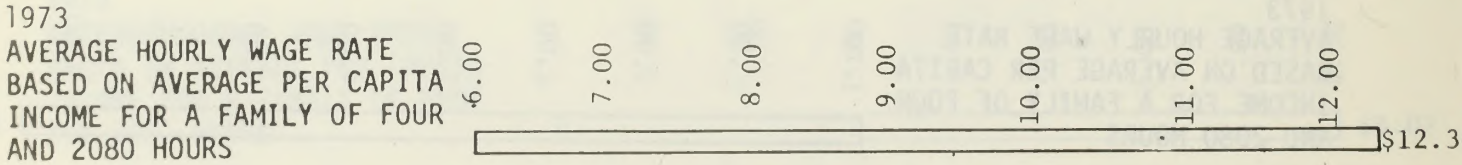
PITKIN COUNTY

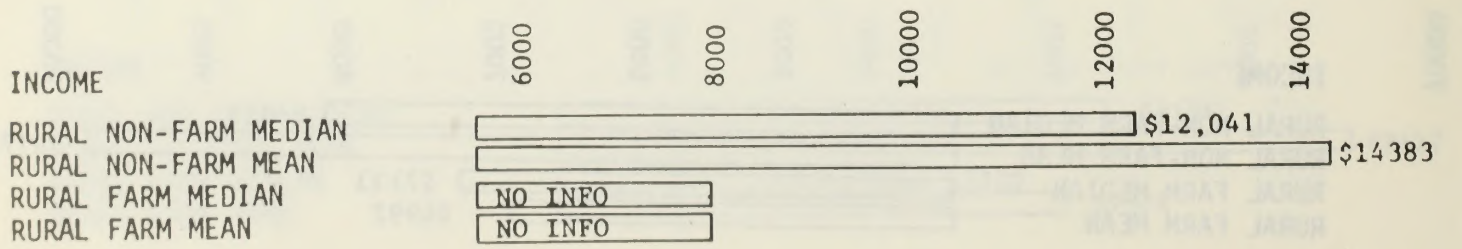
1970 CENSUS - RURAL FARM & NON-FARM





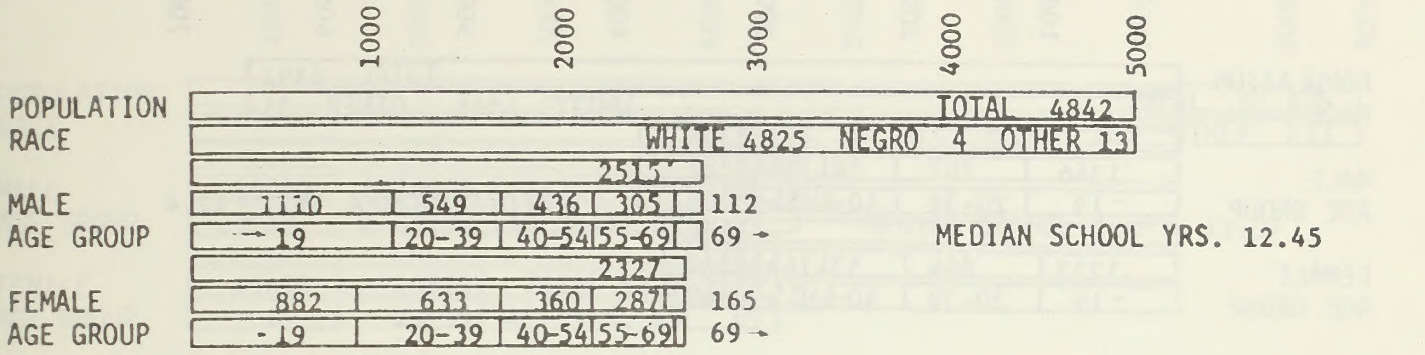


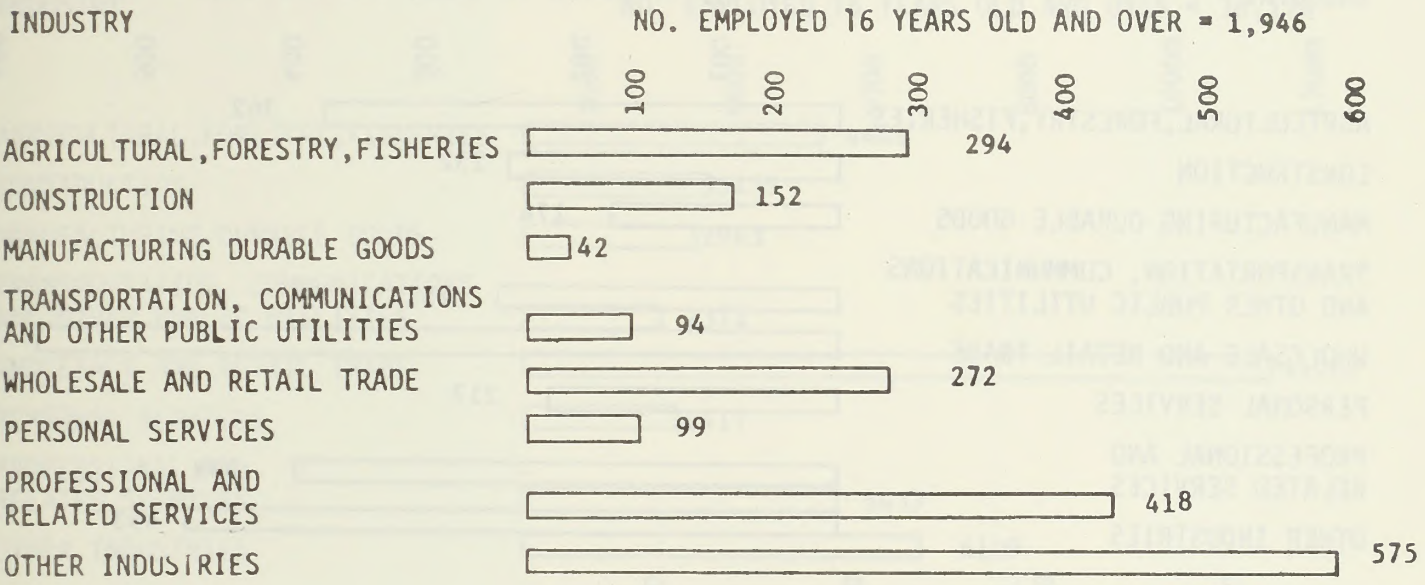


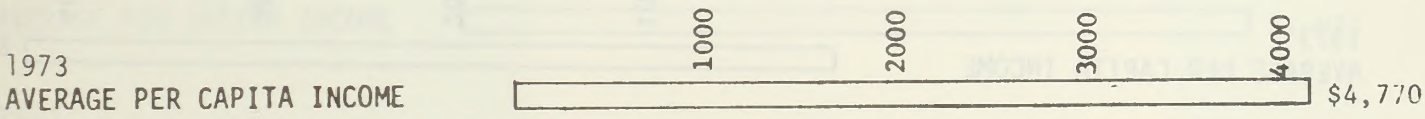


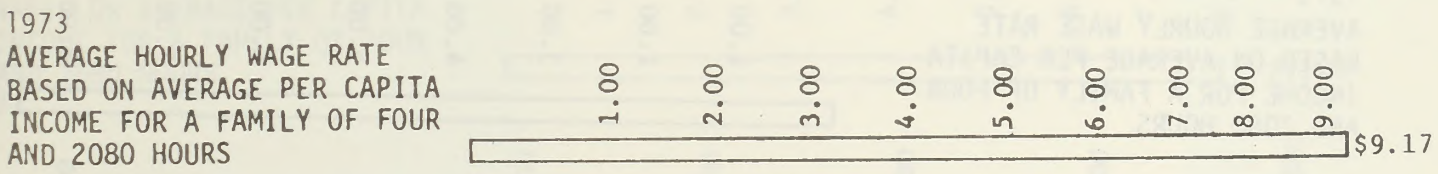
RIO BLANCO COUNTY

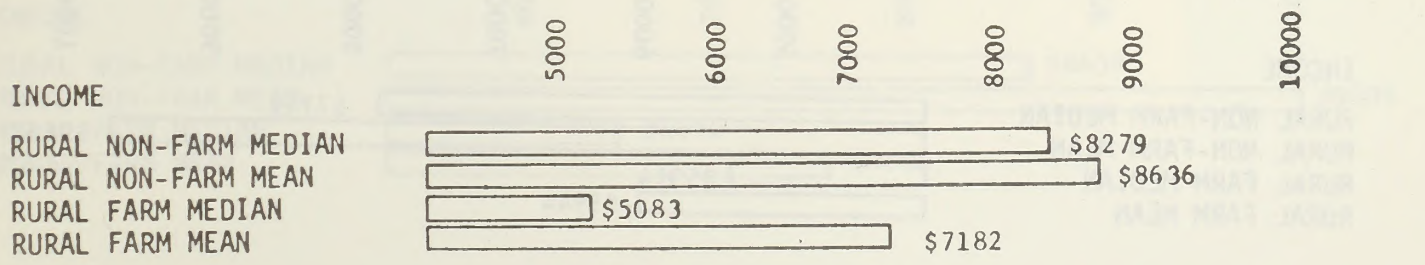
1970 CENSUS - RURAL FARM & NON-FARM





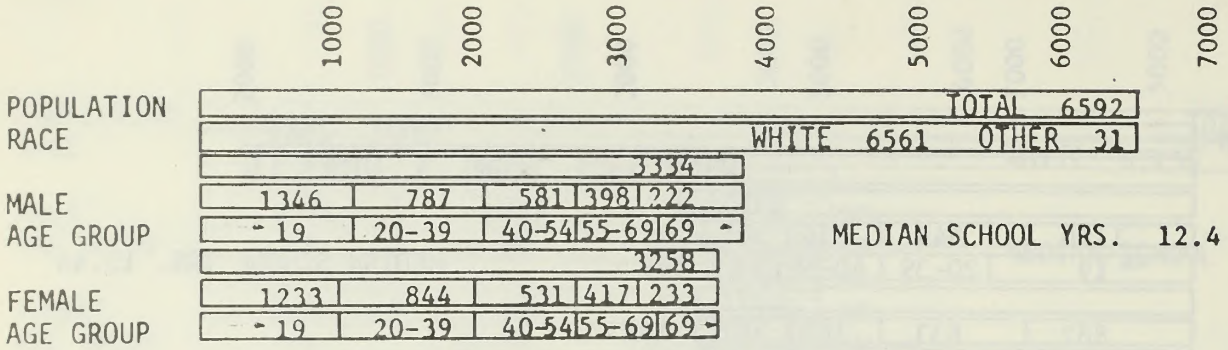


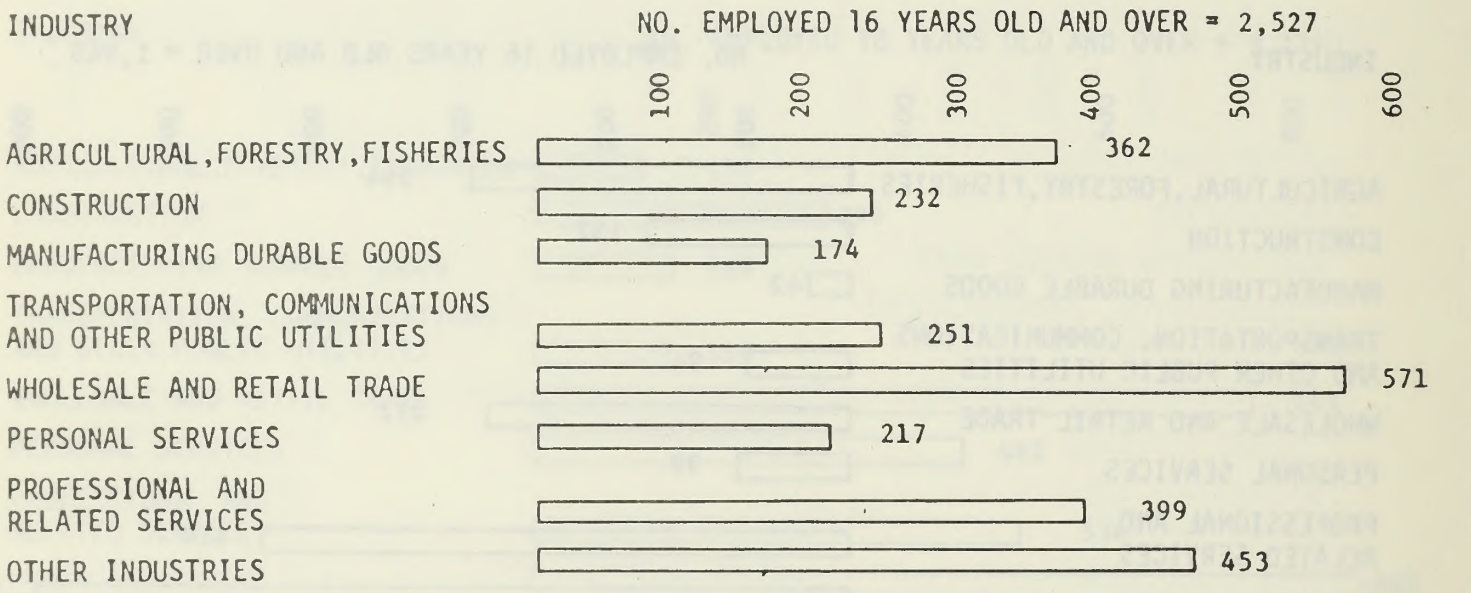


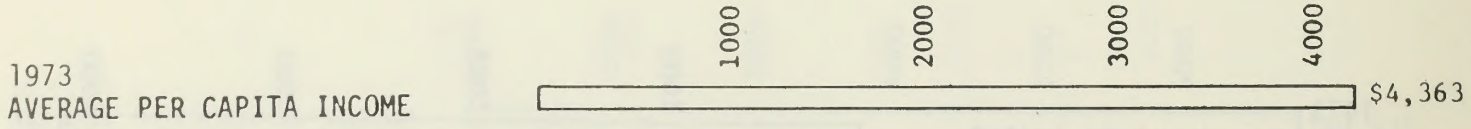


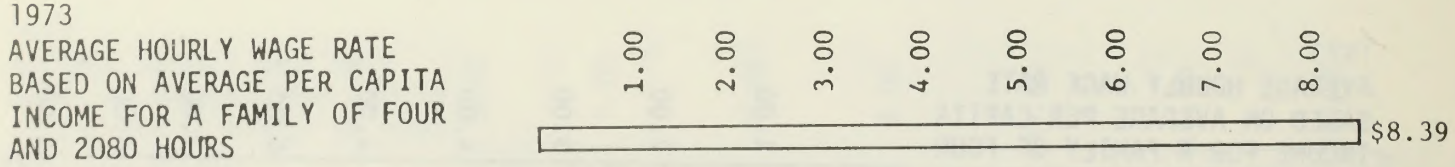
ROUTT COUNTY

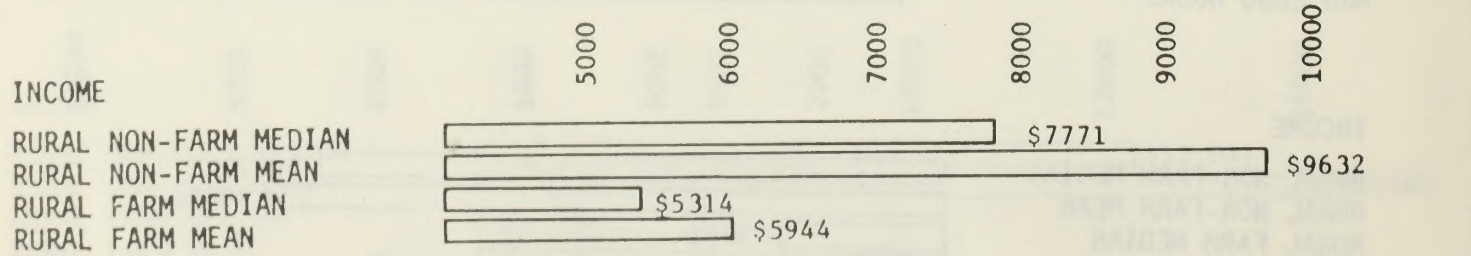
1970 CENSUS - RURAL FARM & NON-FARM





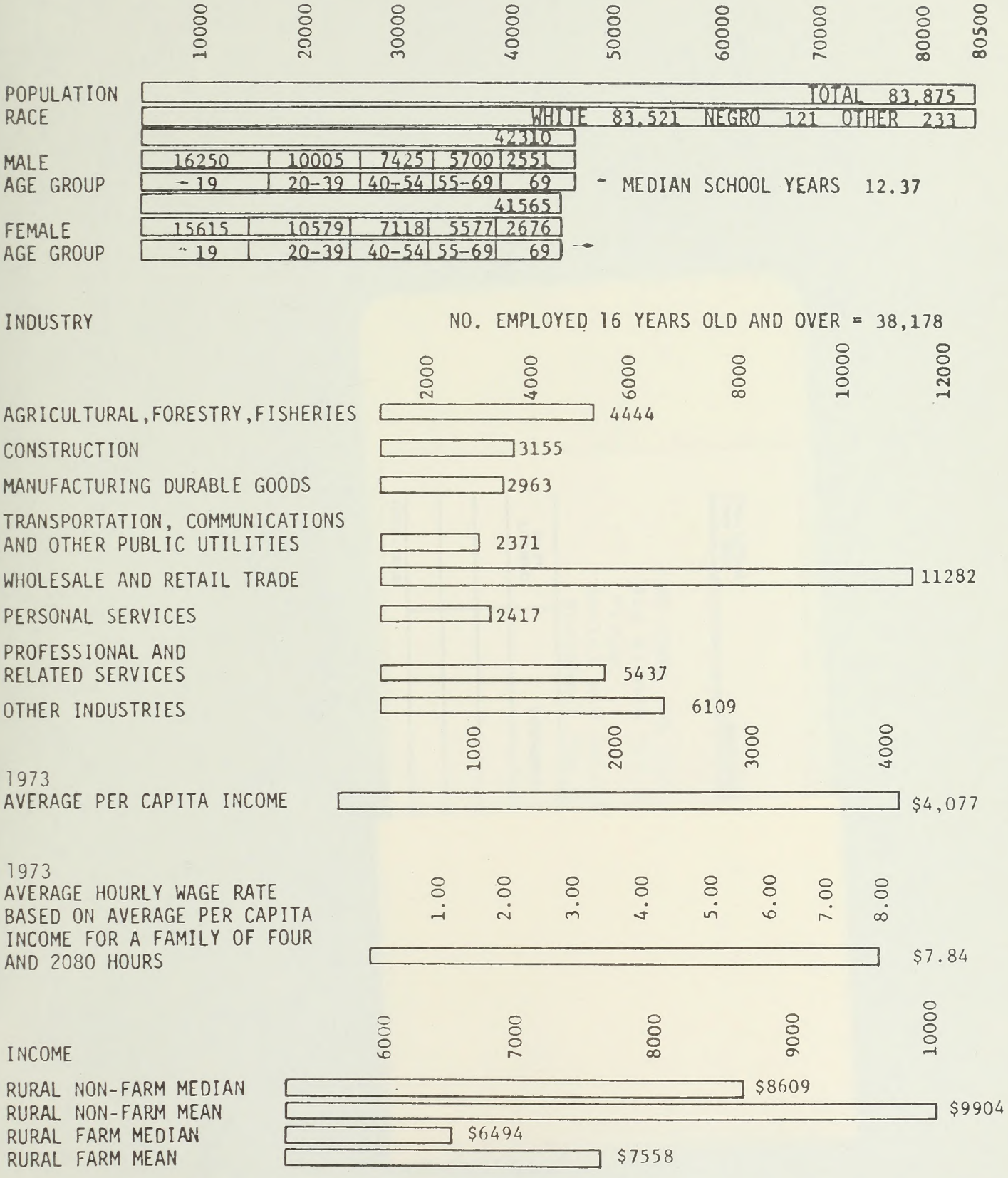


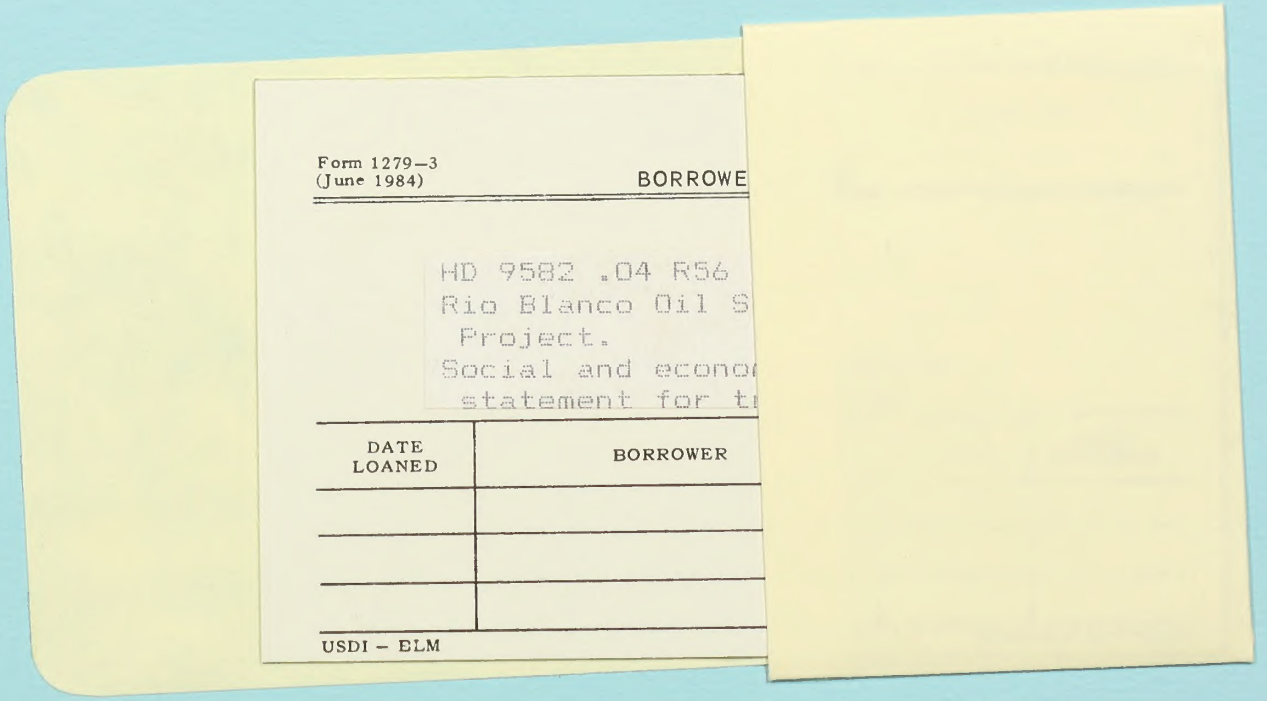




CONSOLIDATED 10 COUNTY

1970 CENSUS - RURAL FARM & NON-FARM




Form 1279–3
(June 1984)
BORROWE
HD 9582 .04 R56
Rio Blanco Oil S
Project.
Social and econo
statement for t
DATE LOANED
BORROWER
USDI – ELM